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# VOCATIONAL EDUCATION AND CHANGING CONDITIONS

Changing Economic and Social Conditions and  
Their Effect Upon Vocational Education



1934

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UNITED STATES DEPARTMENT OF THE INTERIOR - - *Harold L. Ickes, Secretary*  
OFFICE OF EDUCATION - - - - - *George F. Zook, Commissioner*

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## FOREWORD

The inquiry on which this report is based was undertaken at the request of the American Vocational Association. At a meeting of that association held in New York City, December 9, 1931, the executive committee approved a recommendation for appointment of a committee of the association to study changing economic conditions, and problems involved in adapting programs of vocational education to these changes. On February 22, 1932, the executive committee voted to request the Federal Board for Vocational Education, now a division of the Office of Education, to assume responsibility for making this study, on the understanding that a committee from the association would serve in a cooperating and advisory capacity. On March 9, 1932, the standing committee of the Federal Board approved the proposal of the association, and on June 22-24, 1932, the Director of the Federal Board called a conference of committee members and others to discuss the projected research. Subsequent conferences of the Board's staff with the advisory committee of the association were held October 19, 1932, and May 2 and 5, 1933.

The research committee of the Board's staff charged with the responsibility of conducting the inquiry comprised the following members:

Chairman: J. C. WRIGHT, Assistant Commissioner for Vocational Education.

Vice chairmen: Charles R. Allen, educational consultant; John Cummings, chief, research and statistical service.

Members: Terry C. Foster, N. B. Giles, C. F. Klinefelter, Beulah I. Coon, Marie White, F. W. Lathrop, H. B. Swanson.

The economic and social trends which appear to be of significance for vocational education have been identified, listed, and classified by the staff committee as they bear on different types of vocational training for agricultural, industrial, commercial, and home-making employments, and develop in these several fields corresponding needs for vocational training.

As originally planned the results of the inquiry are to be published in two or possibly three separate reports: One—the present report—dealing with the larger aspect of problems developing for vocational education out of recent economic and social changes; a second, dealing with these problems in more technical detail, as they present

themselves to officials administering and supervising vocational programs in the States and local communities; and a third, to be issued possibly in a series of publications, dealing with problems consequent upon changing conditions as these problems confront vocational teachers in developing the content of vocational all-day, part-time, and evening courses, and in devising methods of vocational instruction and training adapted to take account of present conditions and trends.

Dr. C. A. Prosser, director of the William Hood Dunwoody Industrial Institute, in Minneapolis, Minn., prepared the present report, based upon the findings of the staff research committee. Dr. Prosser was requested to prepare the report because of his personal interest in the inquiry from the beginning; his close contact for many years past with the problems arising in the field of vocational education consequent upon the widespread, continuous, and frequently revolutionary changes affecting our wage earners, farmers, and homemakers; and, finally, because of his services as chairman of a select committee on technological employment which, in its report to the Secretary of Labor in 1931, dealt with many aspects of the social and economic trends of recent years, with which the present inquiry also deals as they bear upon vocational education.

This is the first of several documents to be based upon the work of the research committee. Other documents will deal with special applications of the study to the problems of administrators, supervisors, and teachers in the several fields of vocational education of less than college grade.

GEORGE F. ZOOK, *Commissioner.*

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PART A

SUMMARY OF FINDINGS AND RECOMMENDATIONS

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# VOCATIONAL EDUCATION AND CHANGING CONDITIONS

## PART A SUMMARY OF FINDINGS AND RECOMMENDATIONS

### INTRODUCTION

DURING the present century all fields of employment have become subject to sweeping economic and social changes. These changes are still going on. Some of them are common to all lines of employment and some are peculiar to particular occupations or fields of employment. These changes have caused corresponding shifts in the demands on workers which have increased their difficulties and their need for help. These difficulties and needs are, generally speaking, of two kinds: Those common to workers in all fields—industry, agriculture, home making and commerce; and those peculiar to workers in different lines.

### FINDINGS

SECTION I. *Difficulties and needs common to all workers.*—A summary of these as revealed by a study of the trends common to all occupations includes the following:

1. It is more difficult for the worker to keep up with what he has to know regarding his work.
2. It is more difficult for him to keep up with what he has to do in his work.
3. It is becoming more necessary for him to use his head more and hands less.
4. It is becoming more necessary that he shall also have other assets in addition to specific knowledge and skill.
5. It is more necessary for him to keep in good physical condition.
6. It is more difficult to learn skilled occupations on the job.

SECTION II. *Special difficulties and needs of wage earners.*—In this study certain well-marked economic trends were found in the wage-earning occupations of industry and commerce that were



not found in agriculture and home making, which are nonwage-earning occupations. The farmer is not a wage worker. He is a productive worker on his own and a business man combined, and the housewife is paid not in wages but in kind. Usually, also, she is manager and purchasing agent as well as productive worker in her own household.

In addition to the obstacles which confront workers in all fields and which are listed in section I above, the citizen who is employed as a wage earner in commerce or industry faces a large number of special trends or problems:

1. He has increasing difficulty in meeting higher standards of employment set up by the employer.

2. He has greater difficulty in securing employment at former age levels.

3. It is harder for him if he is an incompetent worker to secure and hold a job.

4. He faces the potential risk of competition with better-trained foreigners.

5. He faces a greater risk of having his job migrate to another community.

6. He faces a greater risk that he may find it necessary to migrate to another community in order to secure employment.

7. The increasing extent to which occupations are differentiated, specialized, and subdivided improves his chances of retaining any special job in which he is competent but reduces his chances of re-employment once he loses his job.

8. He is increasingly restricted by legislation affecting all employment, by code and labor regulations, and by other factors and agencies.

9. He faces, in proportion, as he is unskilled, a greater risk of job shifting.

10. He faces a continuous situation where the demand for technicians in all fields is increasing and where the demand for highly skilled tradesmen continues undiminished.

11. He faces continuous testing on the job by rising standards of efficiency in its performance.

12. He faces in some occupations a diminishing number of available pay-roll jobs while in others he faces an increasing number of pay-roll jobs.

13. It is more and more difficult for him to discover what he wants to do and what he is fitted to do.

14. It is more and more difficult for him to market his assets as a worker to the best advantage.

15. To an increasing extent he imperils his chances of employment by thinking that an education will relieve him of hard work and of the need for continuous improvement in a changing economic world.

SECTION III. *Special difficulties and needs of workers engaged in farming.*—(A nonwage-earning occupation.) In addition to the obstacles common to workers in all fields described in section I above, a study of the trends in agriculture shows that those engaged in farming face such other problems as those listed below. Some of them are not by any means peculiar to agriculture but they are emphasized here from the standpoint of the farmer as a business man.

1. It is harder for the incompetent worker in farming to survive under competitive conditions.

2. The unskilled worker faces an increasing need of greater skill in order to survive as a competitive farmer.

3. In many cases he faces the need for a greater diversification in his own business.

4. He has a greater difficulty in adjusting his product to market demands.

5. He has a greater need for the exercise of managerial ability in handling farm problems which are becoming more and more numerous and complicated.

6. He faces an increasing need of understanding and carrying out intelligently special legislation and regulations concerning farm products.

7. He faces, in many cases, geographical shifts in production areas which may make it necessary for him to modify the old or take up an entirely new line of production.

8. He faces a fluctuating competition in his business due to drift from and to urban life.

9. It is more difficult for the farm youth to make an intelligent decision regarding his life occupation.

10. It is more difficult for the farm youth to be a competent farmer.

SECTION IV. *Special difficulties and needs of home makers.*—(Nonwage-earning occupation.) In addition to the obstacles and problems confronting the workers in all vocations including home makers, described in section I above, the following difficulties and needs in the opinion of leaders in this field grow out of the wider conception of the home as a social unit or agency for human welfare of which the home maker is the leader and administrator as well as a worker:

1. It is becoming more of a problem to hold the home together.

2. It is increasingly difficult to adjust to changing housing conditions.

3. It is becoming more important and difficult to secure and maintain desirable home surroundings.

4. It is becoming more necessary to operate the home on an efficient economic basis.
5. It is becoming more necessary to make the home atmosphere an adequate offset to the tension of life outside the home.
6. There is an increased recognition of health as a family asset.
7. It is becoming increasingly difficult to provide proper or adequate recreation in the home.
8. It is increasingly important to make intelligent use of available forms of social services.
9. It is increasingly difficult to bring the home up to socially desirable standards.
10. It is becoming more difficult to become competent as a home maker.

SECTION V. *Social trends.*—The study showed certain trends which are not included in the foregoing analysis of the growing difficulties and needs of workers, but some of which, at least, are germane to the problem. They are included in the following summary:

1. There is an increasing number of persons in the total social group who are in some way socially maladjusted.
2. The growth of crime and disobedience to law furnish the most significant evidence of increasing social maladjustment in this country.
3. Employment in an occupation for which a person is not suited is another widespread form of social maladjustment.
4. There is an increased public sense of responsibility for the handicapped.
5. There is a changing concept of education from training for leadership alone to mass education as an offset to social maladjustment.
6. There is an increasing tendency toward public vocational education.
7. We seem to be facing, as the result of the depression and of other causes long at work, a geographical shift in lines of business, products, plants, and workers which emphasize the interstate or national character of the vocational education problem.

#### CONCLUSIONS AND RECOMMENDATIONS

*What is the present situation?*—The difficulties and needs of the workers of today have already been outlined. These have resulted from economic causes which are described in the body of this report. These causes are continually at work. In any system of free economic competition they will probably continue and at a constantly accelerated rate. If this be true, then the problems of the American worker in any line of employment will become more and more difficult and the need of help correspondingly grave.

*Confused workers.*—In shop and office, on the farm and in the home, the workers of America are confused by the kaleidoscopic, technological, and economic swirl in which they are engulfed; disturbed by the shifting demands of their occupations; discouraged by the uncertain character of their employments; alarmed by the rising standards and requirements of their occupations which they must somehow meet; and baffled in their efforts to meet them because they need knowledge and understanding, as well as skill, which their daily job never could give and is becoming less and less able to give them.

*Some vital issues.*—These difficulties lead to unemployment, lowered morale, social unrest, reduced income, and lower standards of living among workers. They also lead to a growing inability of workers to meet the rising standards of efficiency in the performance of work which competitive business has set up in the case of industry and commerce; competitive agriculture in the case of farming; and public opinion and social expectancy in the case of home making. Entirely aside from the question of justice to the beleaguered workers of the country and of their personal welfare, the future of American industry, American business, American agriculture, and the American home is at stake!

*What should be done to meet the situation?*—Four things at least. One would be to maintain the efficiency on his job of the wage-earning worker in an industrial or commercial occupation. A second would be to take care of new groups of such workers having special needs. A third would be to supply the necessary number of thoroughly trained recruits for agriculture, commerce, industry, and the home. A fourth would be to improve the ability through training of workers to market their wares—their wage earning or productive assets and aptitudes.

*How can it be done?*—Three alternatives present themselves. The first would be to have the services to workers described in the foregoing paragraph performed by employers for the benefit of their own wage earners in industry and commerce; by farmers for the benefit of their sons; and by home makers for the benefit of their daughters. A second would be to put the worker in all lines of work on his own responsibility for securing what he lacks to overcome his difficulties. This is still the prevailing policy in this country in spite of the encouraging development of the beginnings of a system of public vocational education.\* A third would be to have the public assume the responsibility for providing an adequate system of public vocational education in the States which will meet

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\* The Executive Order of June 27, 1934, under which a Federal committee has been established by the Secretary of Labor to prescribe rules and regulations for apprentice training programs in industry under codes of fair competition, may be noted as a significant development in this field

the needs of prospective or employed workers in the various occupations.

*One feasible plan.*—For many reasons this third plan is the only one that is feasible or that can be made adequate. This is not intended as an argument for Federal aid but as a proposal that a vital service be performed in some way by the only feasible agency. With or without the encouragement and support of Federal aid, public vocational schools of the several States and local communities constitute the only agency by which the service can be rendered properly and the social responsibility discharged.

### THE SEVEN MAJOR POINTS OF THE REPORT

The seven major points of the report are the following:

First. Most people must work in order to live.

Second. In order to work successfully, they must keep up-to-date in their occupational equipment.

Third. So rapid and extensive are the changes in occupations and the corresponding changes in the equipment workers need, that the procession of demands on them seems to be continually passing by while they stand still.

Fourth. If workers do not keep up with the procession they meet with lowered wage, reduced employment, and loss of occupation; and the further they lag behind, the sooner they join the unemployable group or become a part of the social scrap heap.

Fifth. The only agency we know, which can help them keep up to date with the occupational equipment in skill and knowledge they need, is some form of vocational training.

Sixth. Only an adequate system of public vocational education will meet the needs of prospective and of employed workers in the various occupations.

Seventh. All the trends in the conditions affecting the matter emphasize the interstate and national character of the problems of vocational education in the States.

### WHAT TO READ IN THE REPORT

In the body of the report which follows, those specially interested in the difficulties and needs of farmers should read pages 13 to 28, inclusive, on the economic changes which affect workers in all occupations, and pages 45 to 58, inclusive, regarding those special changes which affect the farmer in a special way.

Those specially interested in the wage earners of industry and commerce also should read pages 13 to 28, inclusive, and follow this with the reading of pages 31 to 42, inclusive, where the special

difficulties and needs are discussed which are common to wage earning as contrasted with farming and home making.

Those specially interested in home making should follow pages 13 to 28, inclusive, with the discussion of the special difficulties and needs of home makers on pages 61 to 80, inclusive.

The body of the report concludes with a description of the social trends which are affecting the problem of vocational education and particularly of public vocational education (pp. 81 to 90).



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## PART B

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## PART B

# BODY OF THE REPORT

### CHAPTER I

## ECONOMIC CHANGES AFFECTING THE AMERICAN WORKER

In this part of the report the discussion is for the purpose of explaining and substantiating the statements made in the introduction. That discussion will consist of the answers to a series of questions which are today running through the minds of thinking citizens. In these answers the explanation and supporting evidence for the statements of the introduction will be furnished. That supporting evidence, generally speaking, will include all these types of proof; recognized common experience, reasoning from conditions and causes to results, illustrations, expert opinion, and statistical and other data.

*Research and invention.*—These are the two main causes of most economic change. They result in a never-ending stream of new tools, machines, devices, precision instruments, methods, physical and chemical processes and materials which are utilized in the production of old and new commodities through industry, agriculture, and the home; in the distribution of commodities through commerce and transportation; and in the work of a wide variety of service occupations such as those of the auto repair man. In a sense, the service rendered by those engaged in these service occupations is the commodity they produce and sell. For the purpose of this report, unless otherwise stated, such services will be so considered.<sup>1, 2, 3, 4</sup>

*Progress of scientific management.*—The third most potent cause of economic change is the progress of scientific management. Controlling large amounts of capital and unlimited labor-saving devices, scientific management conquers markets by the mass production of goods at the lowest possible unit cost. Through combines and mergers, plants are enlarged, abolished, or shifted to new locations so as to take better advantage of sources of raw material, customers, or an attractive labor supply. Migratory industries and plants within industries tend to reshape the industrial map of the country.

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<sup>1 2 3 4</sup> Numbers inserted in the text refer to correspondingly numbered notes and references appended to this report. (See pp 91 to 112 )

Beginning where research and invention leave off, scientific management uses their mechanical and chemical contributions to increase the production of goods; to improve their quality and to decrease the unit cost of production. By substituting mechanical for human power, tasks are almost without limit subdivided and specialized. As a result, many old jobs are constantly being abolished or greatly modified and many new jobs created. Spurred by economic competition, equipped with the best labor-saving facilities and skilled in the regimenting of men, scientific management constantly raises its production record to new levels, until overproduction is followed by intermittent or seasonal employment that may end in underconsumption and the inevitable business depression.<sup>5, 6, 7</sup>

*Managerial responsibility.*—Industry and commerce can and do employ special managers to make the most of technological advance. The situation is different in agriculture and home making. Every farmer must be his own manager. In proportion as he, too, becomes scientific does he succeed under the conditions of competitive farming. Science, discovery, and invention have contributed wonder-working farm mechanism for his use. Scientific agriculture has developed the plants and the knowledge of soil culture which have already made the adjustment of agricultural production to consumption one of our gravest national problems. In competitive agriculture already the farmer is witnessing the pronounced shift in the geographical areas where such farm products as wheat, corn, and cotton can be grown to advantage.

The American home is in constant process of adjusting itself to the new mechanical devices and processes which the housewife, as producer and consumer-manager, is eager to utilize for the safety, comfort, and happiness of her loved ones, and many different fields of science contribute useful knowledge which aid her in the discharge of her responsibility for the efficiency and maximum contribution of the home as the fundamental social unit for the care and conservation of childhood and youth.

*The system of free competition.*—Still another important cause of economic change is a system of free competition in which the economic pressure upon employers and upon farmers causes them to utilize every advantage they can gain from the more scientific management of men, of materials, of the production and application of power, of improved physical and chemical processes and of other labor-saving devices. To an appreciable extent, social expectancy in the form of public opinion is providing a form of social pressure on the home maker that lifts her ideals and improves her service in her own household.

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## CHAPTER II

# ECONOMIC CHANGES AFFECTING ALL OCCUPATIONS

Guided by scientific management and spurred on by economic pressure, technological progress is continually changing the character of jobs and occupations in most lines of employment. New operations and processes arise to supplant or modify old ones. Corresponding changes take place in the kind and degree of skill and knowledge demanded by the occupation. As a result the usable content in skill and knowledge which the occupation requires for efficient work is not only continually changing in character but steadily increasing in amount and complexity. In all occupations other than the unskilled or semiskilled, the technical knowledge requirement is increasing as compared with purely manipulative skill.<sup>8</sup>

In most occupations, job assets in intelligence, technical understanding, resourcefulness, morale, and the ability to get along with others tend to rise in the scale of importance as compared with muscular strength or merely manipulative ability.<sup>9</sup>

By the substitution of mechanical for human power, the machine "muscles in" on the occupation so that the demand is for more use of the head and less use of the body. On the other hand, the lifting tempo to which the speed of our economic life is keyed increases the physical and nervous strain on workers correspondingly.<sup>10</sup>

Today the outstanding characteristic of gainful employments of all kinds is their changing character. All around us pronounced shifts—some gradual but many rapid—are constantly going on in the various occupations by which men earn a livelihood.<sup>11</sup>

*Continuous shifts from decade to decade* take place in the comparative importance of fields of employment; in the comparative importance of occupations within fields of employment; in the geographical area where a given commodity is produced; in the kind of raw materials utilized; in the kind and quality of commodities produced; in the labor-saving devices and processes employed; in the increasing substitution of mechanical for human power; in rising standards for the efficient performance of jobs; in the ceaseless upward trend of the output of workers per man-hour; in the ceaseless downward trend of the unit cost of producing commodities; in the

demands for skill and knowledge made on workers; in the difficulties they encounter as workmen; and in their corresponding need of help as citizens.<sup>12, 13</sup>

Some of these difficulties and needs are common to workers in all fields and some are peculiar to workers in specific fields or occupations within fields.

## CHAPTER III

# DIFFICULTIES AND NEEDS OF WORKERS IN ALL OCCUPATIONS

In the summary of findings of this report (see pt. A, findings, sec. I), six of these difficulties and needs were listed, each of which will be considered more in detail here.

1. *Why is it more difficult for the worker to keep up with what he has to know regarding his work?*

For reasons already given, the tools, devices, and processes in virtually all occupations are continuously in a state of development—of improvement. This continual shift in the skill and knowledge required in the various lines of work is one of the most significant features of the modern economic world.<sup>14, 15</sup>

*The fundamental basis of modern skill and knowledge* is the development of science and invention. In a single year more new designs in furniture and woodworking of all kinds are developed than were produced by craftsmen during long periods of medieval history, and the changes in materials, equipments, and processes of manufacturing are correspondingly rapid. Today occupations are many, special, and diversified. Tools and appliances have become complicated and diversified and changes in them are many and frequent.

Old skills are continually being discarded and replaced by new skills. Old technical knowledge is quickly abandoned and supplemented by the results of new discoveries and inventions. New skills are constantly required and new technical knowledge is constantly and rapidly developed and applied. Both the skill and the knowledge needed by workers is complex and rapidly changing. Because the content of occupations shifts so frequently, the modern worker in all fields of employment must adapt and readapt himself to the demands of his job, not once but many times during his productive life.

As a result we have had a great increase in the total technical knowledge available which the workers in a given occupation need to know in order to be efficient on their jobs; retain their employment; or win promotion. But this body of usable knowledge is itself in a state of flux. It is continually changing and will continue to do so as long as research and invention are left free to discover

new principles and to invent new materials and appliances. It follows that the workers in any occupation have in each generation a greater need for the helpful information the work demands, and a greater difficulty in securing it, because of its growing and shifting content.

It will not be possible to furnish here more than one illustration for each main field of occupations of the increasing and shifting body of information with which workers must be acquainted if they are to meet rising standards of efficiency successfully in the discharge of their duties.<sup>16</sup>

*In home making.*—The women of the home are the great retail buyers of the Nation. They purchase most of the commodities of every kind and most of the service produced by our workers. They select and use, among an infinite variety of other things not listed here, sites, houses, and gardens; heating, ventilating, and water systems; rugs, carpets, draperies, and decorations; furniture and household appliances; food and clothing; sanitary care and medical service; education and recreation. To choose and utilize intelligently any of these commodities and services, the home maker needs technical knowledge as a buyer and as to buying standards.

Let us take the home maker's many problems in relation to the selection of fabrics for clothing and household use and consider rayon alone. This synthetic product requires a treatment different from that given other fibers. Home makers who would learn to select and utilize it in garments or in draperies must somehow learn for what kind of cloth it is practical and how to care for it. And every year, new textiles are appearing which contain new and different qualities of rayon, and new mixtures and adaptations of it in a widening variety of cloths.

*In agriculture.*—The extent to which any field of occupations has become mechanized can be judged by the horsepower capacity of the engines of all kinds which are installed to drive the machinery, in relation to the number of employees. In agriculture the horsepower of power movers utilized per wage earner increased from 1849 to 1923 more than 3.5 times. Irrespective of the labor-saving tools and devices of the farm which are now power driven, this substitution of mechanical for human power alone increased the productive efficiency of the farmer and 1 hired man to that of 7 men under the old conditions. In the past decade this advance in the motorization of the farm and in the utilization of man-saving tools and devices has steadily increased.

The farmer has been called upon to pass judgment on the economic value to him of this, that, or the other machine or appliance under the given conditions of production on his farm, and to learn somehow how to utilize it so as to get from it the worth of his

investment. Take the tractor, to illustrate. He has needed—as many still do—knowledge which would help him to decide whether a tractor would pay; to select the best kind for his purposes; to buy it to the best advantage; to learn how to operate it efficiently; and above all, to take care of it properly.

*In commercial employments.*—No better illustration of the problem to workers in this field of keeping up with what they should know can be furnished than the case of a sales clerk of silk and rayon goods in a department store. Every year these widely varied goods change in weave, texture, ingredients, quality, weight, color and shade, design, and price. With a thousand new facts for each season the alert clerk must equip herself in order to serve customers intelligently and promote sales.

*In industry.*—Here so many new operations and processes are constantly appearing and old ones disappearing, that there is no adequate record of the changes available or feasible. In any occupation, when these shifts take place, workers who meet the new requirements must scrap old knowledge and learn to understand and apply the new knowledge in its place. Just now there is a pronounced shift going on, or at least imminent, from the steam driven locomotive to the gas driven or diesel type. Many locomotive engineers, while retaining many facts about the duties of an engineer which are still valuable, will be called upon to abandon much that they know and to take over and use the information necessary to the intelligent handling of a vastly different type of railroad power.

2. *Why is it more difficult for the worker to keep up with what he has to do?*

Progress in mechanics and science brings corresponding mechanical and chemical changes in occupations. These changing operations and processes cause new problems because they present new ways of dealing with old things which workers must learn to understand and perform.

*In home making.*—The substitution of the vacuum cleaner for the broom, of the electric stove for the coal stove, of the oil burner for the coal furnace, and of the washing machine for the old tub have all operated to lighten the physical labor of the household. At the same time they have made it necessary for the mistress of the household and for the housemaid, if there be one, to find out how each "new-fangled" appliance works, as well as its proper operation and care.

*In agriculture.*—When the substitution of the tractor for the mule makes any farmer the operator of a traveling gas motor, he must add to his knowledge of animals an understanding of the internal



combustion engine and the ability to use it and keep it in good running condition. To raise crops and protect his soil against impoverishment, fertilizer must be used. While stable or barnyard manure is, of course, "satisfactory so far as it goes", the experiment stations are demonstrating the value of other fertilizers, such as synthetic nitrate, which the farmer should learn to use. Should he happen, also, to be engaged in the raising of citrus fruit he must become skilled in the safe and effective use of cyanide process for exterminating insect pests.

*Commercial employments.*—When the typewriter was substituted for the pen it created an entirely new type of office employee whose duty it is to copy or transcribe on the machine both dictation and office records. On the other hand, when the comptometer was substituted for the pencil, clerks and accountants were required to learn the handling of the new labor-saving device. Only in large offices is there a special comptometer operator. As the billing machine and the card file in bookkeeping take the place of the cumbersome record books of the old accountant, he must either take over the manipulation of these devices or employ a clerk for that purpose. In any event, he must reorganize his system of keeping books and devise suitable records for the new plan.

*In industry.*—Few, if any, other mechanisms in industry have passed through—are passing through—so many sweeping and constant changes as the automobile. In the effort to please the customer and capture the market many new mechanical principles and devices appear on the various cars from year to year. Each manufacturer operates a traveling school whose experts travel from city to city in order to instruct the shop forces of local dealers regarding "new wrinkles" on that particular make of car. On that car and its new wrinkles the repair shop of the dealer specializes. The mechanic in any of the general auto repair shops of the city encounters in the course of the year the new cars of every manufacturer. Without the help of a manufacturer's school he is supposed, in some way, to know about every feature of every car and to handle all new problems promptly and efficiently.

3. *Why is it necessary for the worker to use the head more and the hands less?*

That this is true is due to the increased mechanization of occupations in a never-ending program of development and improvement, and to the increased importance of organization in the production of goods and in the rendering of service. Clearly the increased substitution of the machine reduces the human, physical (mechanical) contribution but not the mental or nonmechanical contribution. Both technological progress and scientific management are constantly abolishing or revamping jobs in which the worker used his head little

but his body much, and are creating jobs which make more demands on his intelligence, or his knowledge, or his judgment, or his capacity to carry responsibility, or his ability to get along with other people.

The case is clear where new and more responsible jobs are created, as in the substitution of 1 technician for 12 hand cigarmakers. It is also increasingly true, however, that there is less and less place in the economic world for the ordinary day laborer who is handicapped by great stupidity or dense ignorance. Scientific management organizes production on an efficiency basis and the standards of performance for every job are constantly rising.<sup>17</sup>

In the ganging of men and the distribution of duties the semi-skilled and unskilled workers often perform tasks involving the operation of costly equipment, the proper care of costly raw material or of large quantities of raw material, the handling of a costly finished product or the safety of large numbers of fellow workmen. Under such conditions one mistake may cost more in money or in human life than many mistakes by other workers more skilled. In an overcrowded labor market we may expect more than in the past the discriminating selection of those unskilled workmen who know more, think better, and are more reliable than their fellows.

Either one of two situations may result from technological progress. One is illustrated by the case of the weaver in a textile mill and the other by the man in charge of a hydroelectric plant.<sup>18, 19</sup>

*In home making.*—The ability to buy intelligently has become more important than the ability to produce things by the exercise of the old home crafts. If the housewife is not able to bake home-made bread the loss is but slight now that the commercial bakery provides on the average a better loaf, and at little if any additional cost. But if she does not know the difference between wool and cotton and cannot distinguish between durable and shoddy goods, her household is destined to pay annually not only in money but in other ways also the cost of her ignorance.

*In agriculture.*—Through the dissemination of information concerning seed selection, soil preparation, and the use of fertilizers farmers have learned to produce all the available market can absorb. The problem in every branch of agriculture is no longer how to produce more commodities, but how to diversify and to produce more economically as well as to market successfully the farmer's annual output. The solution of this problem by any farmer makes more demands on him for the use of his head than on the farmer of any previous generation. He needs to make a study of market conditions and market behavior which will help him from year to year to plant the right kind and amount of this, that, or the other crop and sell his product at the time and place it will yield

the largest return. He needs also to take over new knowledge concerning new crops that could be grown.

*In commercial occupations.*—Technological improvement has surrounded the modern business man and his office force with many mechanical facilities for doing more and better work with less physical effort. Formerly letters were written by hand; now they are dictated directly to a stenographer or the dictaphone. Formerly, business contacts were made by letter or personal visitation; now the overwhelming bulk of them are made by telephone and telegraph. Formerly, goods were shipped short distances by water and dirt roads; now they are shipped long distances by fast-moving freight trains, trucks, steamships, and airships. Formerly, office correspondence and all other material had to be rewritten or retyped over and over again to secure needed copies; now a wide variety of duplicating machines have turned the modern office into a new type of print shop.

These and many other technological contributions have freed the business man from the mechanical details of his work, and as a result have vastly increased the amount of business he can transact in the course of the day. But the same moving cause of his greater freedom has also led to a huge increase in the amount of business transacted and in the competition for business; has complicated business affairs; has made it increasingly necessary that the decisions of the business man shall be based on an accurate knowledge of the facts involved in each transaction; and has thus brought about a greater use of the head instead of the body among business men and their working force.

*In industry.*—The chief engineer of a great ocean steamship may complete a voyage without doing much more on the boat than possibly inspecting all the countless mechanical and electrical equipments and appliances which have been provided for the comfort and safety of passengers and for which he is primarily responsible. About all of them he must know enough to determine what to do in case of trouble. When it occurs he must use his head to solve problems with mechanisms most of which the old time marine engineer never saw during a life time.

4. *Why is it more necessary to have other assets in addition to specific knowledge and skill in an occupation?*

The increasing complexity of our economic order is emphasizing the importance of selecting employees who fit into the organization and are able to get on with their fellow workmen.

Here again mechanization is, however, the chief moving cause of much of the emphasis now laid on the attitude of the worker. Technological progress has led to the specialization of tasks in the

performance of work and this in turn has made team play between workers more necessary. Antagonistic groups of workers cannot cooperate efficiently. Extensive cooperation is nevertheless a condition of successful operation where individual workmen must fashion different parts of an article and assemble these parts so that they "fit and click" in the finished product.

*The need of team play.*—When scientific management establishes the most efficient path of material flow in a manufacturing establishment, all along that path workmen must cooperate if the flow is to produce planned results. Under gang organization of production men cease to be individual workers and become a part of a group with which they are expected to work as smoothly and helpfully as a well adjusted part of a machine.

Many jobs, admittedly, call for little knowledge or skill even when the work is important as a part of the total effort of the working force. This tends to focus attention on other values—fitting into the organization and getting on with the people with whom you must work. Among employers there exists a perfectly understandable desire to eliminate worry about "trouble makers" by not employing them. Even in the case of skilled workers there is a tendency also to prefer the "adjustable man." In almost every concern some steps are taken to cultivate the morale of the working force, and the high productive value of effective team play no one debates.

*In home making.*—Freedom from household drudgery, which the mechanizing of the home has given so many women, has thrown into the foreground other responsibilities requiring other qualities than those of a routine worker. The many new opportunities for the improvement of the home in all its aspects make higher demands on the personality as well as the qualifications of the housewife. More than ever before she requires all such assets as tact, diplomacy, good health, poise, and capacity as a household executive. Perhaps this last quality is the most valuable of all because she is undertaking new and vital services which require from the start the ability to plan for each of the many services of a home program; to carry out that program; to check the results; and to adjust her plan accordingly. Few executive jobs make higher demands on personality and managerial ability than does that of the American home maker at her best.

*In agriculture.*—Relieved of much drudgery through the application of mechanical power to the farm, its owner finds that success now depends in large measure, at least, on other qualities than capacity to farm in the same old way. He must develop the ability to manage all the affairs of his farm so as to get better results in product and price and at a less cost of production. The old isolation of rural

life prevented him from developing the personality he now needs to market the products of a more diversified farming. Finally, he should cultivate the ability to get along with people for still another reason. There is need for more collective action and greater team play about many things among the residents of the countryside, and in meeting this need he should play a more influential part.

*In commercial employments.*—Because research and invention, the engineer and scientific management have so enormously increased the output of commodities per man-hour with correspondingly amazing reduction of unit costs, business is more concerned today with the selling than with the production of goods. While it is not by any means wholly true, there is a partial truth in the saying that “anyone can produce goods today but it takes real ability to sell them.”

Of course the quality, appearance, and adaptibility of any commodity helps to sell it. Business has learned, however, that goods do not sell themselves. By other means, in addition to the real merit of an article, must customers be attracted, contacted, sold, properly served, and retained. As never before employers are paying close attention to what might be called the selling assets of recruits to the business as well as of old employees. Wherever any position brings an employee in contact with the public or with individual prospects as customers, beyond a certain amount of intelligence and of mechanical or clerical skill, the person chosen to fill it is the one who seems best equipped to cultivate new customers and hold old ones.

The information clerk at the front desk of any line of business is not assigned there because of her ability as a stenographer or accountant. With her the mechanical duties of a clerk are reduced to a minimum. She must, of course, know the answers to the questions asked by the public. What counts most, however, are her other assets in attractive personal appearance, neatness, pleasant voice, good manners, uniform courtesy, tact, diplomacy, and the smile that is both sincere and winning.

*In industry.*—After the employing official of any concern has determined whether an applicant is competent to fill the position for which he has applied, an answer to one further question is sought: “Will this man fit into our organization?” This is not a simple question but rather the final answer to a number of more specific ones such as: “Has he ever been in difficulty with the law?”; “Has he ever been discharged for cause?”; “What is his reputation as to truthfulness, honesty and the like?”; “What evidence is there of his ability to get along with others or to manage people?”; “Is his personal appearance favorable or against him?”; “Is he of a cheerful or a sour disposition?”; “Is he just after a temporary job or a permanent position in which he will stick?”

These and many other similar questions illustrate the combing which employers do to an increasing extent in the effort to select what they describe as the right kind of people. It will not be possible here to describe at all the many tests which have been developed, some by psychologists and some by employment officials, for the purpose of measuring in the applicant the personal qualities other than specific knowledge and skill which are regarded as necessary additional assets. Few of these tests are today regarded as very reliable but they do show that it is more and more necessary for a worker to have other assets than job efficiency in order to find employment.

5. *Why is it increasingly important that workers keep in good physical condition?*

The moving cause for this lies in two facts, so far as wage earners are concerned. One is the pressure under competitive conditions for efficiency among employers. They are engaged in a struggle whose law is the survival of the fittest. The second fact, in turn, is the natural pressure for efficiency in order to save himself, exerted by the employer upon his employees. Since all experience shows that workers discharge their duties better when they are well than when they are sick, physical condition is universally recognized as a factor in efficiency and therefore in employment. It is also recognized as a factor in the case of those engaged in nonwage earning occupations, such as home making and agriculture.<sup>20</sup>

*In home making.*—Every one recognizes the necessity for good health for a woman as a condition of maintaining the kind of home that modern conditions require. The woman is largely responsible also for the health and working efficiency of all members of the family as well as for her own.

*In agriculture.*—Under competitive conditions a farmer, who lacks physical stamina does not usually survive in the business. These competitive conditions are increasing in their extent and spread as well as in their complexity. They also call for a rising degree of mental alertness as a condition of economic survival, which also requires physical fitness.

*In commercial and industrial employments.*—In both these fields of occupations the increased importance of the physical condition of the worker is shown in a number of ways: The precautions to safeguard his health and to care for him when ill are increasing. The safety program has increased its efforts to protect him from accidents and occupational diseases. Rising standards are being used regarding the physical assets of workers, in selecting new employees. More physical examinations are required of applicants for employment. The tempo at which occupations in both fields are carried on causes a strain on the worker against which his main

safeguard is to maintain himself in first-class health. In all occupations the rising need for mental alertness requires a basis of sound physical condition among workmen.

All this emphasis on the physical fitness of workers is increased by the vigilance of employees' mutual benefit societies in discouraging the employment of the unhealthy and the physically handicapped. To a considerable extent, also, workmen's compensation acts, the policies of casualty companies and employer's group insurance schemes tend to produce the same results. In a labor market in which the supply of normal workmen exceeds the demand, it is becoming harder and harder for any applicant to secure employment who, for any reason, is below par physically.

6. *Why is it more difficult to learn on the job to perform skilled occupations?*

Because jobs having considerable content require more time to learn, and skilled occupations have more and more content in skill and knowledge, particularly the latter, which the learner must acquire to be a competent workman. Because also many employers have abandoned the attempt to give systematic and adequately broad training to their men, the high degree of specialization in their plants making the task too difficult and costly, if not impossible.

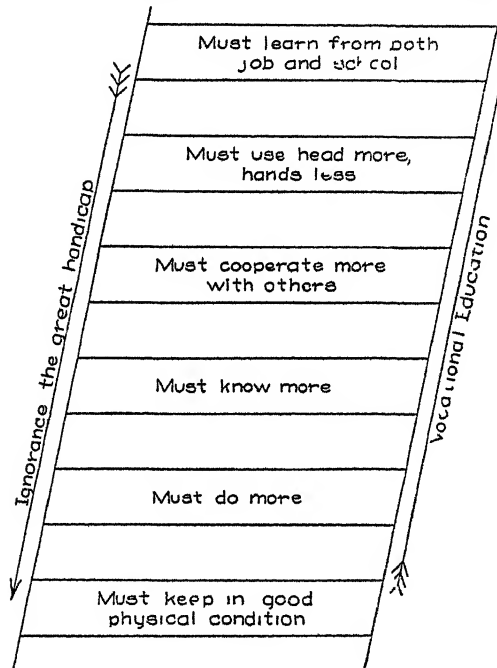
Increased specialization creates many jobs quickly learned such as those of the operator of a semiautomatic machine. Among any group of 1,000 jobs a certain number are being increasingly specialized. The remainder are going the other way—are being increasingly broadened; therefore, they require more time to learn them. Obviously, the measure of any job and its demands is the length of time required to understand and master it.

*In home making.*—As long as the woman of the household made most of the clothing for the family according to very ordinary standards, it was possible in a comparatively short time to acquire the necessary skill. Providing clothing for the family has shifted from actual production to the buying of many ready-made garments. As a result clothing the family now calls for an almost entirely different skill of a distinctly more difficult kind. It has ceased to be entirely manipulative and, as has already been pointed out, requires the technical knowledge, skill, and judgment of the buyer rather than the maker of goods. Moreover the buying often has to be done with inadequate information with which to combat high pressure salesmanship.

*In agriculture.*—During the past 25 years, Government pamphlets and the extension service of our agricultural colleges have poured out on the farmers of America, as the results of research and experiment station work, an enormous body of technical knowledge regarding every farm problem. The fact that much of it in the past was

too technical to work itself down into plow handles does not discount either the fact that some practical knowledge of much of it is necessary to insure economic success in competitive farming or that literally millions of farmers have profited by this assistance. As a free lance, the farmer may or may not avail himself of this source of help and prosper or suffer accordingly. In any event, learning what you need to know in order to be a prosperous farmer is becoming every year a more difficult task for the farmer untrained in the practical interpretation of technical literature.

*The Needs of Workers in All Occupations*



*In commercial occupations.*—When a young woman completes a course in stenography and typewriting in a school, she has merely acquired enough proficiency in these two commercial arts to obtain employment as a learner in some office. Real skill, even in the writing, interpreting, and transcribing of “pot hooks” to the machine is only developed by real practice in the office where the anxious novice seeks to meet definite standards as to accuracy and speed—standards that advance as she improves, because the employer expects and has a right to expect more.

He knows from experience that she will probably in a reasonable time learn to do the mechanical work of the job successfully. Usu-

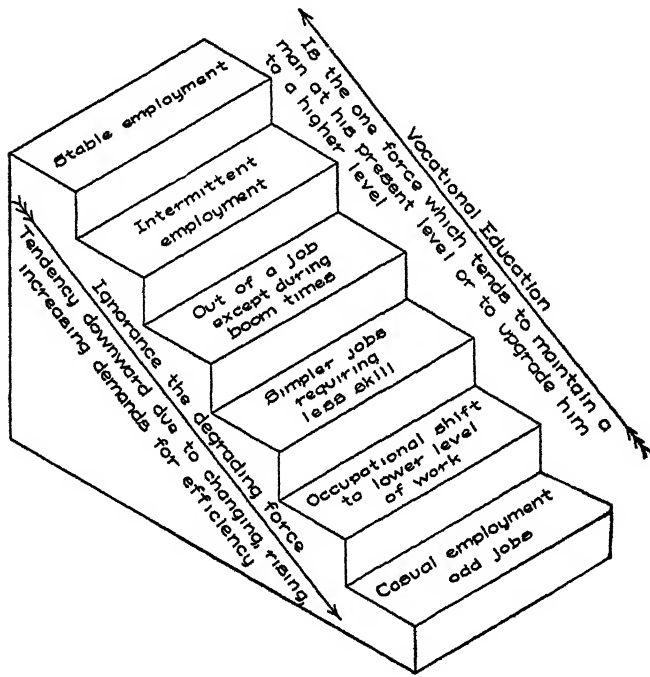


ally he is much more concerned as to whether she will learn other and, to him, more important demands of the job.

As a wise executive he frees himself from details as much as possible by practicing the slogan "never do anything that you can safely trust someone else to do." Increasingly he relies on his stenographer, who is in process of becoming his secretary, to keep track of his engagements; check the accuracy of his statements and figures; deposit his money; draw checks for his signature; check his bank balance; keep him informed about important matters in the office; deal tactfully with callers; practice team play with other members of the staff and their subordinates; and make herself generally indispensable. All these are skills that, as a whole, require at least as much attention, tact, and effort as mastering some system of shorthand or the keyboard of a typewriter.

*In industry.*—In machine-shop work, a specialty shop produces over and over again a special article, some parts of which may be stamped out from a die by a special machine operated by a man who has learned to do this task efficiently in a few weeks or months. But the man who made the wonder-working die served a long period as learner and journeyman, during which he became a master of all the operations of the standard power-driven tools as well as the hand tools of the machine shop. There is no royal road to the skill of such a mechanic. Experience, practice, study, and thinking—all these require time.

VOCATIONAL EDUCATION vs. UNEMPLOYABILITY





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## CHAPTER IV

### SPECIAL DIFFICULTIES AND NEEDS OF WAGE EARNERS

In addition to the six difficulties and needs common to both wage-earning and non-wage-earning occupations which are discussed in chapter III of the body of this report, there are special difficulties and needs common to wage earners in commercial and industrial occupations but not to those engaged in home making and agriculture. In the summary of findings, some 15 of these special difficulties and needs are listed (see pt. A, findings, sec. II), each of which will be considered more in detail below.

In the foregoing chapter II, a running synopsis is given of the economic changes that affect all occupations. In large measure these changes have also caused the special difficulties and needs of those employed as wage earners in industry and commerce. At this point, therefore, the reader is referred again to that synopsis.

Other causes of the employment problems of industrial and commercial workers will be considered later in connection with the special difficulties or needs which they help to produce. There is one very potent cause, however, so general in its effect as to justify special consideration here. It is the *economic pressure for efficiency*. This pressure starts with the employer and is exercised by his competitors in the same line of business who seek to win trade by better goods or the same quality of goods at a lower price or a better service to customers. In meeting this never-ending competition, the employer constantly faces new conditions as to quality, price, or service. Since his competitors usually have access to the same labor-saving equipment and raw materials, his chance of winning in the struggle for customers depends largely, if not entirely, on his labor force, from manager to ordinary day laborer.

This economic pressure for efficiency upon the employer explains the economic pressure for efficiency he in turn exercises on his employees. More clearly the employer is recognizing that his main chance of success today depends upon the skill and judgment he uses in selecting, training, promoting, conserving, and handling the most competent working force possible.

1. *Why is it more difficult to meet standards of employment set up by the employer?*

Because of the economic pressure for efficiency just described, standards in the hiring of employees, in conditions of employment, and in the performance of work are increasing in variety, range, and intensity. Their whole trend is in the direction of becoming increasingly selective.<sup>21</sup>

*In commercial employments.*—The paper record of any employment manager for any applicant who is given serious consideration for employment will usually reveal an amazing list of items concerning which the facts have been gathered and digested before a decision is made. As the position to be filled rises in importance, the information requested is more extensive and the standards in filling the position higher. As the position falls in importance, the opposite is true.

The mere recital of some of these items pictures the kind of hurdles over which the applicant must climb in competition with others wanting the same job. Any of these will probably include the most of such items as: Age, place of birth, parentage, nationality, height, weight, previous and present condition of health, previous general schooling, previous special schooling in commercial subjects, grades in school work, previous experience, reference to previous employers as to character of work, references as to previous moral conduct, church affiliation, church attendance, personal appearance, neatness as to dress, quality of voice, manners, speed, accuracy, and intelligence.

*In industry.*—Generally speaking, much the same items are used in passing judgment on the desirability of an applicant for an industrial occupation. In general, the questions asked the applicant for a commercial position, however, would be likely to lay more stress on such matters as personal appearance, tact, diplomacy, and a winning personality because office employees come into closer contact with customers. In the case of the industrial job, on the other hand, more attention would probably be given to the previous record of the man as a "trouble maker" or the opposite, and to his physical assets.

It should not be understood that employers have worked out any systematic plan of selecting either commercial or industrial workers. On the contrary, the very opposite is true. There is no agreement regarding the items such as are recited above that should be considered in selecting an applicant; nor regarding the relative importance of different items; nor regarding the standard which the applicant should meet in the different items; nor regarding methods and devices for rating applicants on different items.

Applicants for employment in both industrial and commercial occupations face not only an increasing effort on the part of employers to raise their individual standards in hiring men, but also

infinite variation amounting almost to chaos in the employment policies, standards, and practices of different concerns.

2. *Why do workers have greater difficulty in securing employment at former age levels?*

In the home, rising standards regarding the amount of schooling for its children have tended to greatly lengthen the period of voluntary school attendance. Restrictive legislation in the various States has lifted the age of compulsory school attendance and set a corresponding age of legal employment. The range of occupations at which youth, above the legal age of release, can be employed has been generally restricted. While all this has been going on, the mechanizing of occupations has made available an adequate supply of more mature workers. Due to the economic pressure for efficiency, employers are giving preference to these older youth.<sup>22, 23</sup>

With a few notable exceptions, the legal minimum age of school release today is 16 years. But the minimum age of employment in industry and commerce is by the voluntary policy of employers advancing very rapidly to 18 years. A gap of 2 years is rapidly opening between the age at which the youth of town or city can leave school for work and the age at which he can secure employment.\* For 20 years the trend in juvenile employment has been going down. Its final culmination is likely to be compulsory full-time school attendance to higher age levels in order to remove idle youth from the streets.<sup>24</sup>

It may be well in passing to call attention to the older age group who are finding it even more difficult to secure employment. Apparently any man who is competent and has, as a result, made himself indispensable has a chance to be retained as long or longer than in previous economic eras because his resourcefulness is needed to meet the problems of the changing machines and processes. Once he loses his position, however, he is likely to find it as difficult as the unskilled man to secure reemployment in some new line. There is a peculiar pathos in the declaration of many of the older men that "after 45 you are down and out." In any event, it can be said with certainty that the trend is away from the employment in wage-earning occupations of beginners under 18 and over 45 years of age.<sup>25</sup>

3. *Why is it harder for the incompetent worker to secure and hold employment?*

Because of the pressure for efficiency upon the employer which has already been described and through him, in turn, upon his employees. This results in an increasing demand for a higher degree

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\* By joint resolution Congress in 1924 submitted to the States a constitutional amendment providing that "Congress shall have power to limit, regulate, and prohibit the labor of persons under 18 years of age." Twenty States had ratified this amendment to the end of May 1934.

of competency in the performance of all tasks. The introduction of high-power electric locomotives, for example, has resulted in the necessary shift of former engineers to lighter trains, whose record showed them not capable of operating the new equipment successfully. Many employers claim that even during the depression there have been jobs going vacant because of inability to secure a first-class man. Obviously, as standards rise in the performance of jobs the incompetent workers are those unable to meet the new requirements. Because standards are rising, the number of incompetent workers as measured by these standards is probably increasing. This, in turn, overcrowds the ranks of the incompetent workers and increases the competition for unskilled employment.

When a new labor-saving machine or process is introduced, it does work formerly done by men. Some workers must be displaced temporarily at least. Those who are dropped are usually the men who performed the manipulative work thereafter to be done by the machine. Their service is no longer needed. Only those are retained to operate, repair, and care for the new mechanism whose ability, experience, knowledge, and resourcefulness make them indispensable. The rest are discharged because they are incompetent to meet the new conditions.<sup>26, 27</sup>

Two types of incompetent men are found in this displaced group: Those who are displaced because, while competent on the old and disappearing job, they are unable to meet the higher requirements of the new conditions; and those who never were really competent on the old job but claimed to be. As they leave one type of occupation to seek employment in another, they are confronted in their efforts to secure another job with entrance requirements and tests of increasing severity.

4. *Why is the statement made that the American worker faces the potential risk of greater competition with better-trained foreign workers?*

This risk is of two kinds: Competition with other countries in world markets where the products of American skill compete with those of European countries; and competition on our own shores with better-trained foreign-born labor. It is true that we have reduced to a minimum the quota of immigrants admitted to this country annually. It is also true that there has been no rush of immigrants from any European country to our shores during the present depression.

From the history of the past it is safe to predict, however, that our quota allotments to the various countries will be overcrowded when good times return. Particularly is it significant that the quota of immigrants allotted to those countries of northern Europe to which in the past America looked for highly skilled workmen

are not now being filled. With the return of prosperity there will be a renewed demand for well-trained mechanics which under present conditions must be met, if at all, by importing them under the quotas allowed. As the average age of a skilled mechanic in America today is about 45 years, there will be little help from that source.

It so happens that the countries having the larger immigration quotas to America are those that are giving better training to skilled workmen (England, Germany, Belgium, France, and the Scandinavian countries). In the past, also, immigration from these same countries has been largely from the industrial class. Their skilled mechanics can in considerable numbers be brought into this country as economic conditions improve and employers want them. These same countries furnish us our greatest competition for foreign markets. In any event, the American workman faces the possibility of competition at home or abroad with workmen who have received a superior all-round training in the fundamentals of the skilled trades.

*A responsibility not met.*—This advantage is due to a number of reasons. Apprenticeship as a means of recruiting and educating competent tradesmen is retained abroad but has been virtually abandoned at home. In Europe, there is less specialization of tasks and therefore a better chance to learn on the job. In this country, American employers have in general been unwilling to provide any systematic training of skilled mechanics or to support training agencies, such as industrial and trade schools, to supply this need. Rather have they relied on the employers of northern Europe to prepare a source of supply of competent tradesmen for American industries.

Abroad the employers have accepted their responsibility for conserving the competency of the trade. There has been much more perpetuation abroad of that responsibility through the guilds and crafts. Here the evidences of any recognition of this responsibility by employers are rare indeed. The maintenance of skilled people is a recognized national policy abroad—a policy and service that must be carried out somehow. In America, outside the Federal grants to vocational education, there is no policy.<sup>24</sup>

5. *Why does the worker face greater risk of having his employer migrate, taking the job along with him?*

As the result of economic pressure, considerations of economy often cause concerns to migrate with their plants. Sometimes the old plant as well as the equipment is transported and sometimes only the equipment. By this shift in location costs are saved because of easier access to sources of raw material; of closer markets



for the finished product; and of a cheaper or better labor supply. Sometimes the move is dictated by the desire to avoid labor troubles, and sometimes a special subsidy by the new community becomes the deciding factor.

Often the same results are produced by the consolidation of plants. A combine of capital is formed which buys out or squeezes out an old company. In the resulting merger, plants are combined and the old plant or plants may be abandoned and the equipment transferred to another location. No small encouragement in this process is furnished by the improved facilities of the present day for the transfer of plant or workers.

One of two typical situations tends to develop under these conditions. The employer may move and take only indispensable workmen with him. On the other hand, he may move and leave all workers behind him.

6. *Why does the worker face a greater risk of having to migrate in order to secure employment?*

For the reasons given in the answer to question 5 above. Obviously, in proportion as employers, plants, and jobs migrate, the probability that the worker must also migrate increases correspondingly. He has only three alternatives: He may go along with the job to the new plant if the employer wants him and he himself is willing to start over again in a strange community. In rare instances he may be able to remain at home and secure employment in the same job or occupation or shift to some other employment. Finally, in the search for reemployment in his old line of work he may be compelled to find a new employer elsewhere.

7. *Why do increasing differentiation and specialization increase a worker's chances of retention in his special job but reduce his chances of reemployment once he loses his job?*

Pressure upon employers for efficiency leads to increased mechanization of jobs. This makes possible an increasing degree of differentiation of processes and duties and the greater specialization of tasks, through which more goods can be produced or more service rendered at a reduced unit cost. To accomplish these ends the same economic pressure dictates that, as the duties or tasks of any job are narrowed in their scope and variety, the worker must develop an intensive efficiency in their performance. The requirement is that he shall become 100 percent efficient.<sup>29</sup>

8. *Why is the worker more restricted in the selection and following of an occupation?*

In general this growing restriction has resulted from three main causes. One is the social conservation idea, the assertion through law of the police power of the State in protecting workers from

various dangers and abuses. A second is the clash of group interests, as between employers and organized labor, to illustrate. The third is the racial prejudice which interferes in various ways with the employment of men on their merits.

In many cases Government regulations operate to regulate the age, sex, wage, hours, and other conditions of employment. N. R. A. codes are emphasizing and expanding the policy. License regulations are an increasing factor in restricting the employable group in some lines. In the controversy between the open and the closed shop in any community, the chance to secure a job by a workman often depends upon whether his side is at the time up or down in the never-ending struggle. The economic tragedy of the Negro is the racial prejudice in many communities which bars him from consideration for employment.

9. *Why does the worker, in proportion as he is unskilled, face a greater risk of continuous job shifting?*

In all fields of occupations except the professional there is a multiplicity of simple jobs, easily and quickly learned by ordinary people. It is easy to secure plenty of new workers who can be trained at slight cost. Except in periods of abnormal prosperity the supply of available workers for this kind of work exceeds the demand. Under these conditions the unskilled or low-grade skilled man who is employed on such a job has, at the best, a very uncertain tenure of position. On short notice the concern can readily secure another man in his place. He is anything else than indispensable.

Many of these simple jobs are continuously changing in character. Many of them are almost entirely manipulative in their duties. Along comes mechanization to substitute the motions of the machine in place of those formerly performed by hand. As one motion after another is taken over by the machine, the simple job tends to disappear, and the worker who is not indispensable is dropped from employment. At the same time that mechanization is wiping out these simple jobs, it is creating other jobs which make higher demands on the job intelligence, knowledge, resourcefulness, and head work of the more capable workman who has become more indispensable.

Mechanization, therefore, operates in two ways. It produces the displacement of workers who are not indispensable but retains for permanent employment those who are indispensable. Because the limits of the machine lie in the world of motion and not the world of thinking, it displaces those who cannot think and elevates those who can. With accelerated technological advance the job shifting of unskilled men will tend to increase per 100,000 men annually.

10. *Why does the worker face a situation where the demand for technicians is increasing and where the demand for highly skilled tradesmen continues undiminished?*

The causes of both of these situations lie in the same economic changes which have been described in the answer to preceding questions. The increased mechanization of occupations; the rising pressure for efficiency required by employers from workers; the continual substitution of mechanical for human power; and the ceaseless growth of a body of rapidly shifting technical knowledge—all these and other factors have, for reasons already thoroughly discussed, both increased the number of head jobs in wage-earning occupations and continued the requirement for skilled mechanics. See particularly the discussion in answer to foregoing questions 1 and 3 and the answer in chapter III to the question, "Why is it necessary for the worker to use the head more and the hands less?"

Whatever may have happened in particular plants or industries or trades, statistical evidence indicates that the *demand for skill* and for the services of trained artisans, *even of traditional types*, has been maintained. The skilled artisan of today may know less about some branches of his trade than the craftsman of a more primitive period knew, but he knows more about some one or several branches of his trade. This means simply that he has become *less skilled for work which he no longer undertakes and is no longer required to do*, and more skilled for the work he has to do.

Amid all the increasing differentiation and specialization of tasks, more machines will continue to be conceived, invented, designed, produced, fabricated, inspected, installed, adjusted, cared for, and improved. In the onward march of technology, the demand for the technician who knows more and can use his head better will increase proportionately as well as the demand for the skilled workmen with mechanical understanding. Each supplements the other.<sup>30, 31</sup>

11. *Why does the worker face continuous testing on the job by rising standards of efficiency in its performance?*

Economic pressure due to the competition of rival companies is continuously at work on every concern and therefore continuously at work on its employees. This potent cause of many difficulties and needs of workers was discussed above at the beginning of the chapter. To that discussion the reader is referred, particularly to its explanation of the way in which this pressure in turn causes rising standards in the quality or the quantity of the work produced in any job and by any worker.

To the extent to which it is true in any occupation that the standards of admission to any job are rising, the difficulty of securing employment in it is obviously increased. To the extent to which

correspondingly the standards of performance of any job are rising, the worker faces a greater risk of being dropped for failure to keep abreast of the changing requirements as to skill or knowledge, and also faces a greater need for special help in his efforts to do so.

12. *Why does the worker face in some occupations an increasing number of opportunities for employment and in other occupations a decreasing number of opportunities?*

The simplest answer is that due to economic changes the demand for the product or service supplied by some occupations has increased and for that supplied by others decreased. As a result, the numbers employed in the former rise and in the latter drop. This is entirely independent of the much debated question as to whether the total number of employments available in all occupations tends to increase or decrease.

Changes in market demands may cause declining, sick, or dying occupations. Changes in operations and processes and the discovery of new methods may greatly modify or wipe out jobs and create essentially new ones in their place. Changes in the general character of jobs may be brought about in the scientific reorganization of work as the result of which old jobs are dropped and new ones appear.

*Some census figures.*—Some indication of the shift in the employment opportunities provided by different lines of work and of specific occupations within lines of work is furnished by the census reports. While the number of persons employed in automobile garages increased almost ninefold during the two decades from 1910 to 1930, the number employed on steam railroads dropped more than 21 percent; on street railroads, more than 27 percent; and as hostlers and the like, more than 92 percent. (See Chart No. 283, August 1932, National Industrial Conference Board, Inc., New York.)

13. *Why is it more and more difficult for the worker to discover what he wants to do and what he is fitted to do?*

The answer to this question is furnished largely, at least, by a summary of some of the difficulties and needs of wage earners in industry and commerce already described. A review of them at this point will show that both the beginner and the unemployed adult who is seeking employment in some occupation must select it in a fluctuating and shifting economic world.

There, all occupations are more or less in a process of flux and change. They are continually shifting in the tools, machines, processes, methods, and materials utilized; in the number and character of their pay-roll jobs; in the kind and degree of skill, knowledge, and personal qualifications demanded of workers; in standards of admission to employment; in standards of efficient performance of

duties; in the methods used for testing, selecting, and inducting new recruits; in the age levels for the admission and retirement of workers; in the geographical location of employment in the occupation; and in the prospects in the occupation for steady employment and promotion.

*More occupations but fewer establishments.*—While all this shifting has been going on, the number of occupational or job designations, as returned by enumerators and listed by the United States Census Bureau, rose from about 7,000 to more than 27,000 during the 20-year period ending with the census of 1930.\* Two decades ago all the establishments having a pay roll of more than 500 workers employed less than 29 of every 100 workers engaged in manufacturing industries. At the close of the last decade, they employed more than 37 of every 100 workers, an increase of more than 31 percent.

Not only has this amazing growth in the number of gainful occupations complicated and confused the picture for those who try to study them before making a choice, but the inroads of the large concerns in every field of business make it more difficult to get the first hand experience or information about an occupation common in simpler days or even to secure adequate and reliable second hand information about many employments.

14. *Why is it more difficult for the worker to market his assets as a worker to the best advantage?*

For most of the same reasons as are recited in the answer to question 13 above. In addition, the lack of any efficient and discriminating system of upgrading jobs and of selecting, inducting, training, and promoting workers on their merits often makes the marketing of a man's assets to full advantage a difficult and discouraging task.

15. *Why does he to an increasing extent imperil his chances of employment by thinking, as many do, that an education will relieve him of hard work and of the need for continuous improvement in a changing world?*

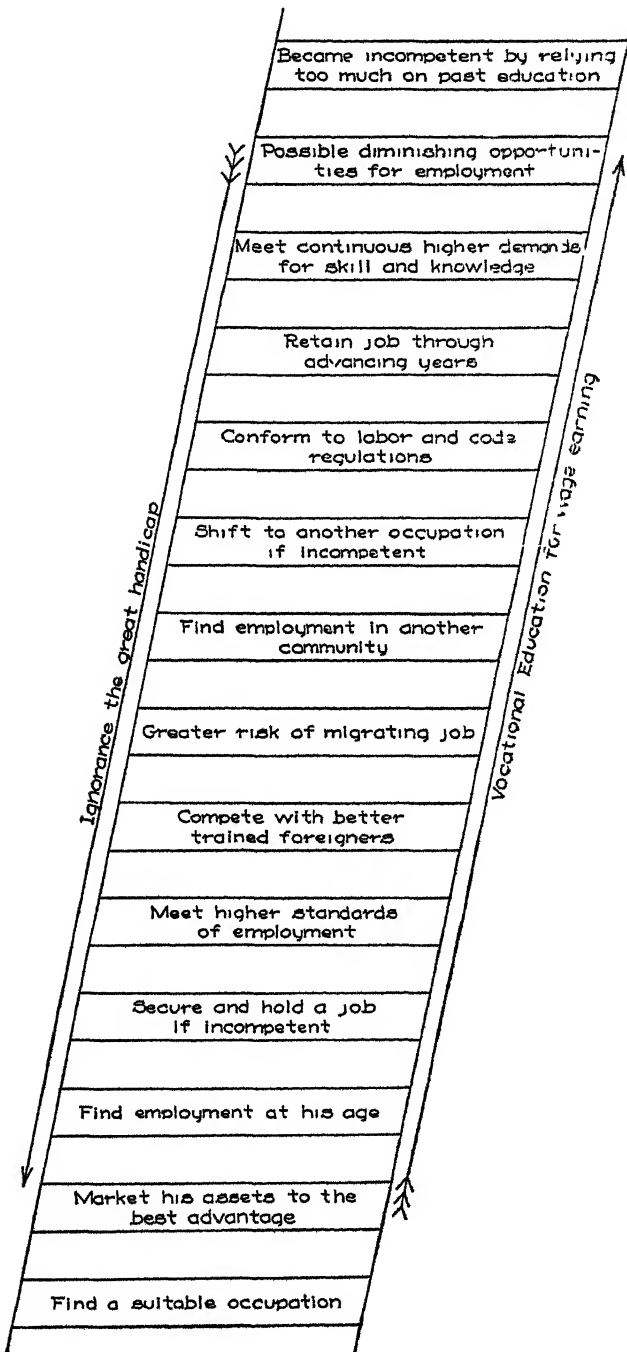
As we have seen, the continually changing character of occupations is a fact. This recognition of a dynamic economic world comes into conflict with the old conception of a static—never-changing, or at the most, slowly-changing—world, including the economic world.

The naive belief of many youth that any kind or degree of general education, or for that matter of any education, constitutes a complete

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\* It is not intended to imply that these occupational designations correspond precisely with the number of occupations as tabulated in the census, or even with the number of different defined jobs reported by enumerators. In many instances what is virtually the same job may be returned under different designations by different enumerators. But the increase in number of job designations undoubtedly represents a real increase in the number of different kinds of work or jobs on which workers are employed.

*Difficulties of the American Wage Earner to be Overcome*

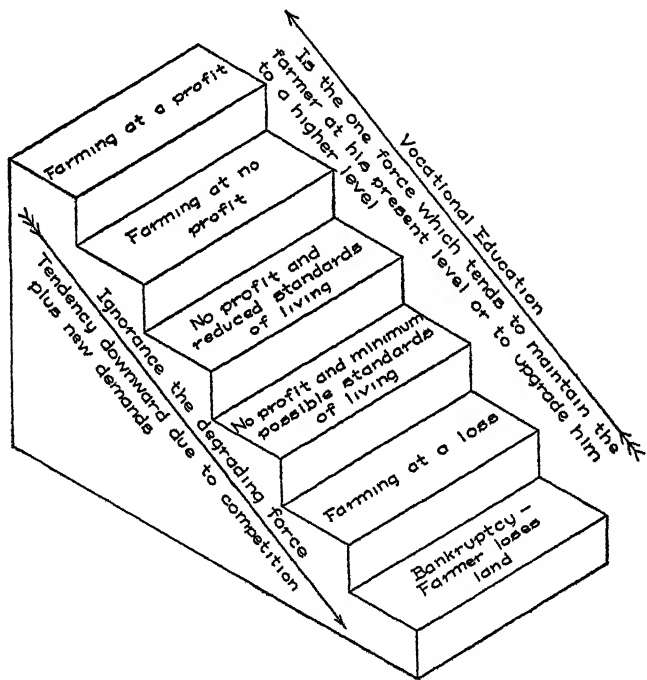


and final equipment for life comes from ignorance of the facts on his part or on the part of those who teach him or on the part of both. This ignorance is directly traceable to the overemphasis placed on cultural education that is independent of a changing world to which, nevertheless, each of us must continuously adapt and readapt ourselves if we are to remain self-supporting and economically independent citizens.

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# VOCATIONAL EDUCATION vs. AGRICULTURAL FAILURE







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## CHAPTER V

### SPECIAL DIFFICULTIES AND NEEDS OF FARMERS

In chapter III of the body of this report six difficulties and needs that apply to both wage earners and nonwage earners (in agriculture and home making) were discussed. These six constitute a partial list of the difficulties and needs of agricultural workers to which this chapter of the report adds a discussion of a special list of problems peculiar to agriculture. This special list as given in the summary of findings (see pt. A, findings, sec. III) is discussed in detail below.

At one time agriculture was entirely a "way of life." It has evolved very rapidly into a competitive industry. Some farming is still essentially a way of life; some is competitive; but farming is today still largely a combination of a way of life with competitive activities.

*The subsistence versus the competitive farmer.*—In agriculture as a way of life, the effort would be to make the farm self-sufficient by producing as far as possible everything the farm home needed, selling any surplus product; and buying with limited cash the necessities and conveniences which the farmer and his family could not otherwise secure. In agriculture as a business the effort would be to produce as much as possible and sell it for the largest price obtainable, using the larger return in cash to buy not only the things which the farm itself could not produce but also the kind of things which, in a simpler agricultural life, it did produce.

Any farmer who specializes in a wheat crop but buys his butter and eggs is engaged primarily in a competitive industry. The owner of the little farm in the hills who secures from it directly most of the absolute necessities of life is primarily engaged in agriculture as a way of life. But a farmer who practices diversified farming so that on the one hand he may escape dependency on the market for a single product and on the weather uncertainties of a single crop, and so that, on the other hand, as a byproduct he may raise more of what his family needs, is engaged in a competitive business while, at the same time, he may be returning in part more to a "way of life."

*Size of farms increasing.*—Since the pioneer period of our economic life, the pronounced trend in agriculture has been toward the highly competitive business it has now become. The continued

increase in the average size and volume of output of farms is one indication that the typical farmer produces for the market and not for home consumption.<sup>32</sup>

*Farm population decreasing.*—"Throughout American history the rate of increase in the number living on farms has been decidedly less than that of our total population and during recent years, the number on farms has been actually declining. The wider use of machinery and improvements in methods have enabled the farmers to materially expand the production per worker and to keep pace with the needs of an increasing population. (Commerce Yearbook, 1932, p. 131.)

Any graph of the relation of the acreage of crops to rural population, agricultural production, and total population shows that during the 30-year period from 1901 to 1930, inclusive, our rural population rose very slowly but the acreage of crops increased much more rapidly while agricultural production and total population, keeping step together on the whole, increased out of all proportion to rural population and the acreage cultivated. This means that progressive farming has become more of a competitive business, so that for all practical purposes the field of agricultural occupations can be classified as a field of competitive activities.<sup>33</sup>

*The farmer as a business man.*—As has already been pointed out, the farmer is a productive worker but with the exception of the hired man, he is not a wage earner. He is owner, manager, and workman, all in one and the same person—another illustration of the "3-in-1" combination. As owner, he invests money in a plant, equipment, and materials; as a workman, he is himself a producer of farm commodities; as manager, he controls and directs the services of others, including the hired man, some of these services being paid for in kind rather than in cash. His counterpart in other industries would be the man who operated a little manufacturing business in which he was assisted by the other members of his family and, if need be, also by the services of an additional paid worker.

As a competitive industry, the essential features of farming are very similar to those of other productive industries. The farmer is under economic pressure from his fellow farmers as competitors regarding the kind, variety, and quality of the commodities he produces; the cost of producing his stuff; the price at which he must sell in order to make a profit on the capital and labor invested; and the share of the market demand that he can secure for his commodities at a profit. And there is, as in other industries, the greater economic reward and, therefore, incentive that comes from using labor-saving, cost-reducing, product-improving devices, processes, and materials and from bringing the affairs of the enterprise under more scientific and businesslike control. These are universal eco-

conomic conditions in the production of farm commodities for the market.

1. *Why is it impossible for the incompetent farmer to survive under competitive conditions?*

These conditions have just been described. Science and invention continue to provide and improve farm equipment for the generation and application of power to labor-saving tools and devices. Unceasingly, research and experimentation have made available the usable knowledge by which the farmer may improve the selection of seed and plant and livestock; the cultivation of animals and crops; the conservation of the soil; the marketing of the product; the keeping of records; the control in general of his unit costs of production; and in short, the scientific, mechanical, and business management of his farm.

If he is to practice farming as a competitive industry he must compete with those who have learned to use these helps in their work. He cannot do this successfully without the aid of the mechanical equipment and of the practical scientific knowledge which his competitors bring to bear in the contest for markets and profit. If he fails for any reason to equip himself with this aid, he will not survive as a competitive farmer but will either be driven out of the agricultural field or follow it as a way of living, not a business.

As these technical helps for the farmer are in continuous process of change, the content in skill and knowledge, which he must acquire, somehow, is also continually changing and growing. To be a competent farmer in the competitive game, therefore, he must master the new things he should know or do regarding his work—a continuous learning process in which he must use his head more and his back less.<sup>34</sup>

*Why farmers fail.*—A farmer may be an incompetent worker for a number of reasons. He may lack the ability to do what we have just been describing. He may lack energy and ambition and therefore be unwilling to pay the price of keeping up with his job. He may be a hard worker but because he is temperamentally “set in his ways” be opposed to “new fangled ideas and contraptions.” He may be both capable and willing but uninformed—uninformed because he is one of literally millions of American farmers and their sons who are not as yet adequately served with the educational help they require. Finally there is the handicap to be considered of the lack of funds with which to equip and operate a farm properly.

This means that in farming as in other businesses some failure results from inertia, and it is now being generally recognized that the farmer, even the farmer who has developed a high degree of technological and manual efficiency, has a small and diminishing

chance of success unless he develops also a high degree of managerial ability in his business. One should, of course, not fail to take into account the fact that, especially in recent years, failure has resulted in many instances from general causes over which the individual farmer has had no control. On the whole, however, competition of those who do not keep up to date with those who do is becoming keener from year to year, and lack of technical training is becoming more generally a factor in failure.

*2. Why does the agricultural worker face an increasing need of greater skill in order to survive as a competitive farmer?*

Because he faces an increasing number of mechanical and manipulative jobs which he in his isolation must do if the work of the farm is to be done properly and without the costly interruption of breakdowns and lost time. These jobs are increasing in number and many of them in complexity because of the greater use of mechanical devices and chemical processes on the farm.

The amazing growth in the application of mechanical power has brought a steady increase in the number of farmers who must handle and keep in running condition a wide variety of prime movers and power machinery in the production and application of power, including the windmill, gas engine, water turbine, electric generator, electric motor, oil engine, and small steam engine. To change this mechanical power into labor-saving work, there have been added to it the storage battery and the switchboard and its accessories; truck, tractor, and auto; threshing machine, reaper, binder, and combine; power-driven pump, corn shredder, cutting box, milking machine, and portable sawmill; the power-driven tool of the farm shop and electrical equipment for the farm home. As if all such labor-saving equipment were not enough, a desire to improve the comfort of his home has brought a growing introduction of the telephone, the radio, the phonograph, the power line, waterworks systems, and other equipment.<sup>25</sup>

*Versatility on the farm.*—Few, if any, other workers are required to operate such a wide variety of equipment, most of which was unknown on the farm at the beginning of the present century. Because he can neither waste the time nor stand the cost of taking his machines and tools to town, the farmer must learn somehow to make his own minor repairs. From the standpoint of the demands on him for both versatility and understanding, he should be America's leading jack-of-all-trades, a man who can do a little of many things rather than very much of any one thing. Elementary as this skill may be in the case of any one piece of farm equipment, the farmer's capacity and training for handling farm equipment as a whole must be extensive, and must be constantly modified as he learns how

to handle both old and new equipment better. He must learn from his own experience; from special bulletins and catalogs; the experience of others; the suggestions of the county agent and the agricultural department of the rural high school; and especially from evening school courses organized for adult farmers.

3. *Why does the farmer in many cases face the need for a greater diversification of products on his own home farm?*

It was inevitable as competitive farming advanced that, as in the case of mechanical industries, economic pressure should bring about differentiation and specialization in the production of farm commodities. It was soon seen that the production of one crop such as wheat, cotton, or tobacco, gave the farmer a chance, for a time at least, to increase his output and reduce his unit cost of production. When overproduction or underconsumption, as you will, brought a huge farm surplus and a crash in prices below actual cost of production, a movement which had been under way for some years was intensified, which aimed to restore a greater diversification of products on the individual farm. as one relief from the real or alleged evils of specialization.

*The case for diversified farming.*—The advocates of this program for the farmers of a given region present these and similar arguments. The 1-crop farmer has too many eggs in one basket and needs to spread his risk of a crop failure. Diversity and rotation of crops conserve soil fertility while the 1-crop plan exhausts it. The economic uncertainty of competitive farming makes it desirable that the farmer should become more economically self-sufficient, relying on the production at home of more of what his family requires and less on the cash market. In its more technical aspects diversity means more uniform distribution of labor and of farm income through the year and more effective utilization of byproducts. There is no escape from competitive agriculture whose difficult and complicated problems must be solved, but the farmer also needs for safety and independence a way of life on his home acres which the diversification of products may help to insure.

According to the region, this diversification of farm activities varies in its details. It involves always the raising of varied commodities instead of one; the rotation of crops on specific tracts to conserve the soil; the choice of commodities adapted to the climatic, soil, or other conditions of the region; emphasis on the products that supply the family needs from milk and chickens to canned fruits and vegetables; and stress on animal husbandry as a cheap source of soil fertility.

Obviously, it requires, in general, more knowledge, skill, ability, straight thinking and adaptability to carry on diversified farming

than to operate a one-crop enterprise. In many ways asking a farmer to turn to diversified farming often makes demands on him as great as learning a new trade or starting a new business. The return to a greater variety of commodities may improve the farmer's economic condition. Certainly there is no intent here to advocate diversification as the solution of all the economic ills of agriculture. It will not ease the economic pressure on the farmer for better farming—quite to the contrary.<sup>36</sup>

4. *Why does the farmer have an increasing difficulty in adjusting his product to market demands?*

The making of such an adjustment is certainly of vital importance to him. If he produces less than the market can absorb at a profit to him, he misses the opportunity to increase his income. If he produces more than the market can absorb, so that the supply exceeds the demand, the resulting drop in price decreases his income and may cause a loss.

How difficult it is under the given conditions to regulate the production of any commodity by the market demand is shown by the huge surplus of staple agricultural commodities which we have accumulated of late years and by sweeping fluctuations in the price of farm products. The economic problems connected with the overproduction of farm commodities and the resulting surplus cannot be given adequate consideration here. They are reflected in the amazing shifts in the prices of commodities and in the income and purchasing power of our farming population which have characterized the past 2 decades.<sup>7</sup>

*One cause of the agricultural debacle.*—The economic debacle into which agriculture has been plunged is probably due as a whole to many causes but much of it, at least, can be traced to the blind and unregulated competition among millions of uninformed, noncooperating, unorganized farmers. Their plight would seem to indicate that one major problem of the future in agriculture will be that of the efficient distribution of farm products rather than of increase in the production of commodities.

Just now Government is by legislation providing various forms of relief for distressed farmers; is reducing production in various artificial ways; and is improving the economic conditions in agriculture for the future. In the end, however, the American farmer will work out his own economic salvation in proportion as he becomes proficient in collective action; intelligent in cooperative effort; efficient in his use of expert information regarding market conditions; and skillful in the sale to the best advantage of his own products. As an aid in learning these things both the farmer and his son need some kind of agricultural and economic training.<sup>38</sup>

5. *Why does the farmer have a greater need for the exercise of managerial ability in handling farm problems?*

The answers to preceding questions show that farm problems are becoming more numerous; that they are becoming more complicated; that they are becoming more difficult to solve; that the consequences of bad management are more far-reaching; and that competition is constantly advancing the standards of efficient farm management. There is more to manage, it is harder to manage, and the rewards of good management are correspondingly greater. While managerial ability can be developed only by practice in the conduct and control of farm affairs, it should also be fortified with technical knowledge and be informed concerning the policies and practices in farm management of admittedly successful farmers.

6. *Why does the farmer face an increasing need of understanding and carrying out intelligently special legislation and regulations concerning farm products and other farm matters?*

The brief answer is because that kind of legislation and regulation has increased very rapidly during the last 2 decades and is likely to continue to do so perhaps at an accelerated rate. We are accustomed to regard wage earners as being the only group of workers subject to social control through law and otherwise, but the mere recital of some of the more important of present laws and other restrictions regarding farming shows the great extent to which that occupation also is being regulated.

The farmer is subject to a large body of national, State, and local legislation to which, in competitive farming, he must conform and with which he should be intelligently familiar. Much of this legislation of a relief or remedial character has been passed of late years for the purpose of improving the general economic conditions of competitive agriculture, and some of it for the economic benefit of financially beset farmers. About all of it he needs to keep informed in order to act intelligently as a producer and as a citizen of the countryside.

Chief among the laws and regulations that affect the farmer and his economic and civic problems are the following: Sanitary regulations of the State or urban community governing milk production, animal diseases, and the like; grading regulations of the State or National Government regarding livestock and crop products; national or State marketing legislation; State credit legislation; State land laws; and State or national legislation dealing with rural education, school attendance, agricultural extension, and agricultural education of secondary grade. To this extensive list should also be added recent national legislation under the "New Deal" as it relates to agricultural prices, farm financing, and in some instances production control.



7. *Why does the farmer face, in many cases, geographical shifts in production areas which may make it necessary for him to modify the old or take up an entirely new line of production?*

These shifts in production areas may result from one or more of a wide variety of causes: The discovery of a new type of some product is one. Plant breeding has extended the corn production area and changed the farming business of many northern Minnesota farmers. Sometimes the shift in products is due to the recognition by the farmers of an area that crops may be rotated. For this reason, every commodity except wheat is a relatively new product in the Red River Valley. Sometimes the demand for some crop falls off and others must be grown. Since the World War, tractors and trucks have largely displaced horses, thus setting free about 55,000,000 acres of land formerly used for feed crops—a development which has resulted in many changes in farm businesses.

Irrigation has proven a potent cause of shifts in the geographical areas of crops. The irrigation of Texas in the Rio Grande country, together with the discovery that cotton could be grown in semiarid regions of western Texas, has made that State a most formidable competitor in the production of cotton. Insects and diseases may practically eliminate a crop and force a change to another. At Enterprise, Ala., a monument has been dedicated to the boll-weevil because it forced the cotton growers of Coffey County into the more profitable business of producing peanuts and hogs. Transportation developments have been a powerful influence for change. Fast freight and the refrigerator car brought during the last decade an amazing development in the South of truck farming for the Chicago market. Naturally, also, price changes may cause changes in products. Every rise and fall of the price of milk on the New York markets extends or decreases the area within which milk is produced and sold on that market.

Every time a pronounced geographical shift takes place in the production area for any commodity, the farmers who are affected must obviously acquire more or less rapidly the skill and knowledge necessary to handle successfully the new product.

8. *Why does the farmer face a fluctuating competition in his business due to drift from and to urban life?*

The main cause of the flow of population to and fro between rural and urban life is economic—the hope of bettering one's condition. During the 10-year period from 1920 to 1929, inclusive, more people moved annually from farm to city than from city to farm. In the 3 years of the depression beginning in 1930, however, the reverse was true. Because of the natural increase in farm population due to births, and of the pronounced drift to the farm during the depression,

the farm population reached a new all-time peak in 1933, the year in which the economic condition of the farmer reached its lowest ebb. With more people on the farm than ever before in our history, the farmer was being aided in various ways by Government to reduce the surplus of farm commodities which had wrecked farm prices.<sup>39</sup>

*Who moves to town?*—We know that, generally speaking, the persons who shift from country to city even though they may not be particularly dissatisfied with their experience in farm life, nevertheless think that better opportunities are provided in the city, and vice versa. From the rural standpoint we know too little about what kinds of persons are going to farms and how permanent their stay will be. There is reason to believe that most of these persons are farm reared and are returning to farms. Many will return to cities when conditions are favorable. On the other hand, there is a drift to the farm of persons definitely committed to farm life and these persons will stay. In addition, there seems to be a "one foot in the country" movement according to the 1930 census, although no data was collected by the census on these persons until 1930. These persons get most of their living from small farms and often obtain in addition income from other occupations. In many respects the life of such persons is similar to farm life.<sup>40</sup>

It remains to consider the effect of immigration on the rural farm population of the country. The decreased quotas allowed different countries have operated to reduce to a minimum all immigration to the United States. During the last 4 years of the depression there has been a net excess emigration of foreign-born persons returning to their native country. In recent years and even before restricted quotas were established, immigrants have gone in increasing numbers to cities and in decreasing numbers to farms.

Foreign-born white rural-farm population increased slightly in the North Atlantic States between 1920 and 1930. In the Western States and along the Mexican border the rural-farm population of Other Races showed a considerable increase for the same period. In the North Central States the foreign-born white rural-farm population has markedly decreased. In the Southern States, except along the Mexican border, the foreign-born rural-farm population has never been important. Generally speaking, it seems safe to say that immigration has ceased to be a factor of any considerable importance in competitive agriculture.

9. *Why is it more difficult for the farm youth to make an intelligent decision regarding his life occupation?*

When the typical farm youth of the present day looks to the city as a source of employment, he learns that deep economic depression there has resulted from the overproduction or underconsumption or

both of industrial commodities and that almost every urban occupation is overcrowded with workers. When he looks to the countryside, he sees the dire economic distress which has been the result of the overproduction or underconsumption or both of farm products; of too many acres in cultivation; and of too many farmers in the business.

*Confusing city occupations.*—When the typical farm youth undertakes to make a selection of some kind of employment in the city, he finds himself facing literally thousands of gainful occupations which are constantly increasing in number; constantly shifting in the content of skill and knowledge; constantly advancing in their entrance requirements and demands on workers; and constantly changing in their opportunities of employment and their desirability as life occupations.

*Isolation from urban affairs.*—The rural youth has few, if any, chances to see any occupation except farming carried on by others, or of opportunities to try out any occupation before making a choice. So great is the number of urban occupations and so rapid the changes in them that even printed information is available for only a few of them, and this begins to become obsolete and unreliable almost as soon as it is issued.

Almost as discouraging facts confront him when he considers some kind of agriculture as a life work. All around him he sees apparently conclusive evidence that farming as a competitive business has failed, and he may be faced with the alternative of following agriculture as a way of life which he regards as a forced return to a more primitive and, to him, unattractive method of living. He is almost as confused as in the case of urban occupations by the conditions of competitive farming, which surround it as a local business but over which the farmer, as the local owner, has little control.

*Discouraging agricultural conditions.*—Among these confusing conditions are all such as the following: Tariff regulations, trade agreements, and trade wars between nations; drought and bumper crops at home and abroad; shifts in the geographical areas of farm products; the ceaseless ebb and flow of workers between the farm and the city; overproduction, underconsumption, and an apparently continuous surplus of farm commodities; sweeping fluctuations in the price of farm products; a price crash in farm commodities; 4 years of farm prices below cost of production and of farm income below cost of living; and the indisputable economic uncertainties of the future in agriculture.

Even the study of long-time trends in agricultural prices and farm commodities, however, may not give him a true picture of the proba-

ble success of any kind of farming, because changes are being effected through legislative actions as well as through natural causes.

Fortunate, indeed, under such conditions, is the farm youth who catches some vision of the possibilities of farming when it is carried on by truly competent farmers who are real masters of the occupation. Such farmers bring to bear upon every problem, in good times or bad, skill, knowledge, and managerial ability necessary to its solution, which they have gained as careful students and earnest practitioners of the farming business.

*The only hope for the future.*—The youth of the farm will never catch such a vision from an incompetent father who has failed on the home acres, nor from any rural neighborhood where farming is practiced largely by rule-of-thumb methods. It will be acquired best in those rural areas which are blessed with competent men who exemplify the farmer at his best; with extension programs including 4-H clubs; and with agricultural departments of rural high schools and their organization of Future Farmers of America. These, taken together, can conserve the love of rural youth for the beauty and wholesomeness of the countryside; teach them the fundamentals of good farming; inculcate a respect for the achievements of agriculture in our national life; inspire them to become better farmers than their fathers; and fill them with a resolution to cooperate in solving the perplexing economic problems of competitive agriculture.<sup>47</sup>

10. *Why is it more difficult for the farm youth to be a competent farmer?*

Comparative competency as a farmer in the past, now and in the future, is here measured by the gap at any time between what farming demands in skill, knowledge, and managerial ability, let us say, on the one hand and what, at that time, the farmer possesses of these assets on the other. If the typical farmer of today were no better equipped for the job than his predecessor at the threshold of the present century, he would be much less competent than the latter because of the great increase in the number, kind, and grade of demands which competitive agriculture now makes upon him. While he has improved, on the whole, the content in skill and knowledge required in competitive agriculture has increased greatly, as have the demands on his business ability and the standards as to what constitutes efficient farming.

*The widening gap.*—For reasons that have been discussed in this chapter of the report, it seems reasonable to anticipate that the gap between the requirements for success in competitive agriculture and the occupational assets of the typical farmer may widen in the future. From this point of view the American farmer is destined

to become comparatively less competent more or less in proportion as the problems he must solve increase in number, complexity, and difficulty. This will happen unless some provision is made to improve the farmer as fast as the occupation raises its requirements for success. There is only one way by which this can be done and that is by some form or forms of organized vocational education.

*Learning farming by the helper system.*—In 1930, less than 130,000 of the 2,525,000 farm boys, or about 1 in 19 in the age group from 14 to 20 years, inclusive, were enrolled in the agricultural departments of rural high schools. Under the stimulus of Federal cooperation the agricultural classes of secondary grade provided by States and local communities for the benefit of farm youth have grown rapidly during the past 18 years. It still remains true, however, that before he becomes a man, at least, the typical farm youth receives virtually all the instruction in the “art and mystery” of agriculture which he ever receives, from his father and by what is known in industry as the “helper system.”

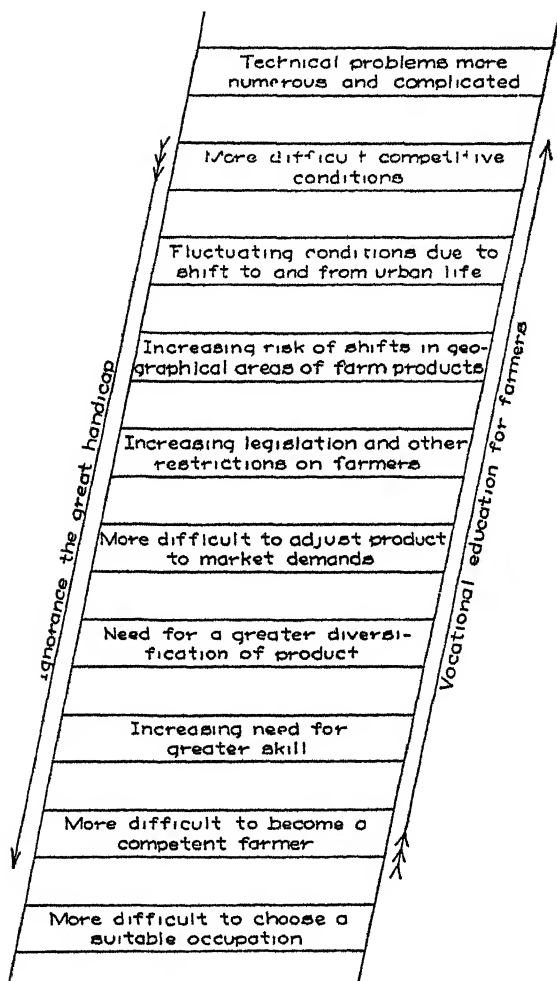
For many reasons this method of equipping youth for the demands of competitive farming has, as might have been predicted, proven utterly inadequate. If this section of the report be sound, then the continuous trend in agriculture is toward the development, introduction, and use of an increasing and changing body of usable technical knowledge regarding soils, seeds, plants, methods of cultivation, mechanical tools and labor-saving devices, management, markets, and records. Neither shop nor farm has ever been able to teach this practical, technical information. Few farmers unassisted by outside agencies acquire it, and no farmers can teach to their sons what they themselves do not understand and put to use.

Under such conditions, even the practice of routine farm work, however well taught by the father unassisted by outside agencies tends to remain static on the level of his limited information. If the foregoing use of the word competent is sound, then the typical farmer engaged in the preparation of his son for competitive agriculture is, during the very period when he is engaged in the discharge of that task, becoming less competent to discharge it properly. Quite aside from all this is the further fact that the typical farmer, like any other typical worker, is better qualified to transmit to his helper skill in the manipulation of things, than to transmit the simple but scientific explanation of things and the application of knowledge to the problems of the daily work.

*Any adequate preparation* of the farmer of tomorrow for the demands of competitive agriculture will not be insured until and unless the agricultural departments of rural high schools become so numer-

ous and widespread that they reach and serve the needs of all farm youth who are still interested in farming as a career. And these

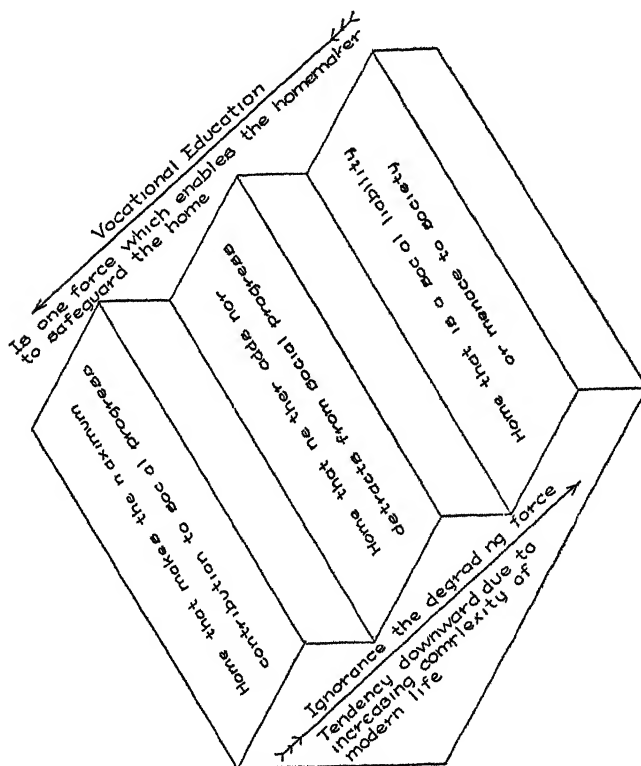
*Difficulties of the American Farmer to be Overcome*



departments will accomplish their purpose in proportion as they establish team play between the farm and the school in the discharge of their joint task and mutual responsibility.<sup>42</sup>

*Present economic set-back in the agricultural program.*—If this be true it becomes doubly unfortunate that the same economic conditions which make the extensive development of a system of secondary agricultural education imperative have prostrated the taxing resources of our rural communities; reduced State aid for rural schools; and curtailed appropriations made specifically for agricultural education.<sup>13</sup>

## VOCATIONAL TRAINING vs UNDESIRABLE HOMES







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## CHAPTER VI

### SPECIAL DIFFICULTIES AND NEEDS OF HOME MAKERS

In chapter III of the body of this report six difficulties and needs that apply to both wage earners and nonwage earners (in home making and agriculture) are given. These six constitute a partial list of the difficulties and needs of home makers to which this chapter adds a discussion of a special list of problems peculiar to that group. This special list was also given in the corresponding section of the summary of findings (see pt. A, Findings, sec. IV).

In the foregoing discussion of the difficulties and needs of wage earners and farmers it was shown that research and invention have produced the devices and knowledge which industry, commerce, and agriculture can use to produce more and better commodities at a less unit cost; that economic pressure due to competition has caused the rapid and extensive use of this economic help in these three fields; and that its use has produced corresponding changes in the number and character of the jobs in the occupations of each field.

*Social as well as economic pressure.*—When we turn to home making we find that research and invention have also produced the devices and knowledge which will improve the safety, comfort, and efficiency of the home in its various aspects and responsibilities. As the home is not an enterprise for the production of goods or the making of profit, however, it is not economic pressure alone which has caused the rapid introduction and use of the contributions of science and industry by the American household but something else. That something else is the social pressure, the social expectancy or public opinion which grows out of a widening conception of the home as a social unit or agency for human welfare. Believing that the improvement of the home will also improve our future citizenship, public opinion has set up rising standards of efficiency in the performance of the various phases of the total job of home making.<sup>44</sup>

Admittedly, economic pressure does make it necessary for many homes to practice economy in the purchase and utilization of materials and services. But most improvement in the home has resulted from the acceptance by American home makers of recognized and rising social standards and not from motives of either greater profit or savings. Potent, too, are all such additional incen-

tives that make for better homes as love of family, love of beauty, neighborhood atmosphere, class distinction, social prestige, and the like.

*Home making, the largest occupation.*—More persons are engaged in home making than in any other occupation or field of occupations. In 1930 more than 28,000,000 women followed it as a form of employment. Of the four great fields of occupations—industry, commerce, agriculture, and home making—the last is the only one which is not carried on for profit. Like the farmer, the home maker is not a wage earner. While in industry and commerce, occupations have been differentiated and subdivided into many specialized jobs, farming and home making still remain essentially unit or one-man and one-woman occupations.

*Home making, a "one-man job."*—As research and invention have increased the amount and character of the skill and knowledge required in industrial and commercial pursuits, the subdivision of occupations and the specializing of tasks have spread the use of the new assets among a number of different jobs so that the worker does not need to acquire all of them but only that part which applies to his special job. In the case of home making and farming, however, the one-man character of the occupation focuses the need for new knowledge and skill upon the individual housewife or farmer.

In still another important respect, home making resembles agricultural rather than industrial and commercial occupations. In the two latter occupations almost all workers specialize in the production of goods; or in the rendering of mechanical or clerical service to others; or in the purchase of commodities; or in the sale of commodities; or in the management of the business. With the exception of service to others, the individual farmer performs all these duties and, with the exception of the sale of commodities, so does the individual home maker.

*Home making, a many-sided job.*—Purchasers of commodities and service; producer of goods and service; and manager of the complex affairs of the modern home: These constitute the three broad aspects of the home makers' work. We are here concerned with the changing demands in each of them which have resulted from constant technological advance and from rising ideals and standards regarding the responsibility and efficiency of the American home; and with the special difficulties and needs of the home maker which these changes are causing.

1. *Why is it becoming more of a problem to hold the home together?*

Current discussion indicates that a large number of thinking people are greatly disturbed regarding the social changes that have taken

place in the last three decades regarding marriage and divorce. In general, their line of reasoning runs in somewhat this fashion: The family is the social unit upon which we must rely primarily for the proper up-bringing of children. In this civilization, at least, the marriage relation is the origin and basis of the home.

The stability of the home depends, therefore, on the stability of marriage and its social value on the existence of the right relations between married people. Since the separation of any married couple is due to the lack of these relations and often causes the disintegration of the home, the increasing number of divorces indicates an undesirable trend and the existence, to say the least, of a very socially undesirable situation.

*Broken homes.*—In America today there is 1 broken home for each 7 or 8 families and 1 divorce for every 6 marriages. Roughly, more than one of every 8 children is reared to manhood or womanhood in a disrupted family which was wrecked by divorce or by the same causes which lead to divorce even though no legal separation took place.<sup>45</sup>

*The causes of divorce* alleged in the petition of the plaintiff furnish very unsatisfactory and unreliable information. In many cases—no one knows how many—they are stated solely in order to set up acceptable legal grounds for the suit. The underlying or surface causes may be quite different from those alleged. While the comparative use of the claim of cruelty has almost doubled, the charges of desertion and adultery, as a whole, have been correspondingly decreased. Very common causes of marital differences are quarrels over money matters, relatives, and leisure time. These causes are seldom set forth in any petition for divorce. Although no records of these causes are available, social workers and other advisers testify to their prevalence.

*Weakened family bonds.*—Whatever may be the reason, most of the ties that bound the family together in the past have undoubtedly weakened. As a result, the institution of marriage, and the home founded on that relation, seem gravely imperiled. Ogburn classifies these ties as the economic, the protective, the educational, the religious, the recreational, and the affectional. Declaring that all of them, except the tie of affection, have been materially weakened during the past century, he holds it natural that the family should fall apart more frequently. "The loss of these other functions or bonds means that the family must look largely to one bond alone to hold it intact, namely the bond of affection." \* \* \*<sup>46</sup>

Any social change which indicates that the home is becoming less stable, less a suitable place for the nurture of children, less permanent as an institution, is, for many reasons, a most undesirable

change—unless it can be offset in some way. Undoubtedly, we have witnessed changes in all the other bonds which, in the past, have held the family together except the bond of affection—the personal relations between husband and wife. To strengthen that bond in some way is our largest hope for the future.

*Can education help?*—So far, we have had little experimentation and less proof that education can be made to improve these personal relations and thus stabilize the family and improve its work as a social agency. We need greatly to learn whether it is possible to educate both unmarried girls and married women for marriage so that they will get along better with their husbands. Perhaps more difficult still is another equally vital problem—that of providing training in marriage duties and responsibilities for men as well as for women. If the two are to pull together better in the intimate affairs of the home the proper equipment of the man for their joint responsibilities is as important as that of the home maker.

2. *Why is it increasingly difficult to adjust to changing housing conditions?*

Years ago the typical situation was represented by one family in one house. As time has gone on there has been an increasing tendency to do away with this one-family, one-house arrangement. The flat was perhaps the first important step in this direction, a building of several stories accommodating one family on each floor. Following this came the apartment house where several hundred families may be brought together in one building. These apartment houses range all the way from highly elaborate provisions for family living to the so-called "tenement house." In rural communities the one-family house still persists but in the larger communities the apartment house, the tenement house, and the flat have found their largest development.

*Trend toward multi-family dwellings.*—In both large and small communities most of our people still live in one-family dwellings but in the centers of population the pronounced drift is toward the multi-family plan of housing.<sup>47</sup>

We are getting, in our urban communities, an easily recognized increase of multi-family building as against the one-family building of older times. An increasing proportion of our population is living under the housing conditions determined by the apartment, flat, or tenement house.<sup>48</sup>

These changes in living conditions bring about corresponding changes in the job of the home maker. They very greatly widen or extend the range of possibilities open to her in the selection of housing. On the other hand, multi-family housing tends to restrict the available space and thus discourages many home occupations of a

productive character which were characteristic of the one-family dwelling.

Gardening is not feasible. The commercial laundry often takes the place of the use of cramped quarters for washing and ironing at home. The all-too-convenient public eating place around the corner increases the temptation to make breakfast in cramped quarters the one family meal of the day. If the housewife is able to pay for it, the apartment house will provide the ordinary maid service and, with the aid of the delicatessen store, leave her, if childless at least, with little productive work to do. By shifting from the one-family to the multi-family plan of housing, rent is paid for less living space and any saving may be applied to the purchase of more services formerly performed by the housewife. Reduced space for living is thus exchanged for various outside services.

Shifts in housing from one section to another where different conditions exist also call for the ability to solve quite different housing problems. Moving from the city to the country, to illustrate, or from a State where rural homes do not have running water, refrigerators, basements or electricity to a State where these are available to rural homes requires as great adjustments as moving from one-family to multi-family dwellings.

No discussion of the problems of housing would be complete which failed to include the serious problem faced by home makers due to real estate developments and the mass production of houses which are ugly in design; cheaply constructed; and without planned convenience or efficiency.

The solution of these problems involves the ability to determine how and where best to house the family; the kind of equipment best suited to the situation; and how to select and care for it. That kind of ability has well been called "job intelligence". The educational problem is easily stated: How can this job intelligence of the home maker be improved for dealing with the increasingly complicated questions that result from the general trend toward the multi-family dwelling? The general answer is easy: Only through systematic education in home making which will give the housewife adequate information concerning these questions and which will help her to think and to plan intelligently in conserving her own family welfare can the job intelligence be acquired.

3. *Why is it becoming more important and difficult to secure and maintain desirable home surroundings?*

Modern thought tends to emphasize the influence of environment on human lives. Society is stressing as never before the need of desirable home surroundings. Along with public opinion regarding a proper minimum standard of living for typical families of

varying size and income, American ideas as to what constitutes a suitable home environment are steadily rising. At the same time many phases of the external environment of the American home, particularly the urban home, are in a continual state of change.

A pronounced public movement, toward more extensive community betterments, has aided families in finding a more attractive and wholesome location. On the other hand, the growing tendency toward "living in a rabbit warren" offsets in many respects for the family of limited or uncertain income, the advantages of the "up-to-date" city.

Beyond the front gate of the home or the front steps of the apartment, the conditions of living are almost entirely out of control by the family. Commercial amusements, public institutions and community psychology, if you will, impinge on the home as never before. Since she cannot change them as an individual the home maker must adapt her home policies and plans to meet the existing situation.

Within the dwelling and its immediate surroundings the housewife can exert a larger measure of control over the family environment. This control varies from that of a house owner financially able to choose a location, build a home and order all its appointments to that of a renter with no other recourse except to make more attractive the interior of a crowded apartment in an ugly tenement house.

Selection of the most desirable family environment possible; improvement of the family environment as far as possible, and adaptation of the home life to the family environment as far as necessary—these three are the problems, generally speaking, which confront the American home maker in relation to housing. Some one of these responsibilities is faced by almost every home during every year of its life, and all of them are faced annually by literally millions of home makers who either migrate from one dwelling to another within the same community or in a different community of the same State or of a different State.

What are some of the more vital problems regarding home surroundings with which the intelligent and earnest home makers of the country, taken as a group, are concerned? An adequate substitute in the city for the old back yard playground. In crowded quarters, the protection of the privacy of the members of the family. Safeguarding the standards and self respect of the family as a whole against the encroachments of too friendly, or too inquisitive, or too troublesome neighbors. Suitable playmates in the neighborhood for the children. Avoiding neighborhood cliques and quarrels, while maintaining friendly relations as far as possible with neighbors and asserting the right of the family to live its own life.

Shielding the family against any specially sinister or evil influence, which impinges upon it. Setting up desirable working relations with the public school for the neighborhood, including possibly its Parent and Teachers' Association. Selecting, buying, and using, so as to make the rural or the urban home more attractive as well as more comfortable, the equipment, furniture, rugs, drapes, curtains, pictures, lawn, flowers, and the like best adapted to the given conditions of living.

All these are tasks which call for all of a woman's intelligence, fortitude, and delicacy, as well as the special knowledge and understanding that only systematic instruction of some kind can give.

4. *Why is it becoming more necessary to operate the home on an efficient economic basis?*

The typical home is operated upon some level of income. While this income may and frequently does change from time to time, "no income, no home." The amount of income largely determines the character of the home and the conditions under which the home maker has to work. Obviously the \$5,000 a year home, the \$10,000 a year home and the \$1,000 a year home each represent different problems of adjustment to the home maker who must determine what can be done with the financial resources available.

"*Buying a living.*"—We are at this point, however, concerned more with the economic changes which have taken place in the economic operation of the home. They have literally shifted the main duty of the housewife on the money side from that of producer of commodities and services to that of "buyer of a living."

The tremendous increase in the availability to the consumer of ready-made articles—clothing, food, drapes, decorations and the like—has greatly increased the possibilities in buying. Almost anything that is called for in the operation of a home can be bought ready for use. Mail-order houses have spread this service even into the remote sections of the country. As a result it is theoretically possible for every home maker to become entirely a purchasing agent rather than a producer.

It is estimated that about 85 percent of the spending for retail goods is done by women. At any rate, the consuming market for a large proportion of goods sold at retail is a market of women buyers. As a result they have been particularly subjected to a high-power salesmanship of household commodities amounting in some quarters to actual misrepresentation. To all this must be added, as a well-recognized fact, the economic insecurity of the times, particularly where the income of the family comes from wage earning in industry or from a professional occupation or a commercial (distributive) employment.<sup>49</sup>



*Home manager.*—To a steadily increasing extent the home maker as a manager is concerned with two questions: One is whether she should make or should buy the commodity. The other is whether, if she buys, she is getting what she pays for—in other words, whether she is getting the most efficient return for her dollar. As the commodities to be bought increase in number, in kind, and in variety the problem of the home maker becomes more difficult. She can be helped considerably through more accurate labeling and specifications by the manufacturer and by some form of education which will equip her for more intelligent buying and for a more intelligent choice between making and buying.

*Buying intelligently.*—The home maker buys service as well as commodities. She buys, or may buy, to illustrate, medical service, dental service, manicure service, beauty-parlor service, religious service, banking service, dressmaking service, millinery service, housemaid service, garden service, and child-nurse service. Often when she thinks she is saving money by doing something herself, it may be an open question whether she would not have done better by taking advantage of professional service.

For motives of economy she may attempt certain work which breaks down her health and results in expenditures far beyond the amount she planned to save. A certain type of well-meaning mother sometimes concentrates on doing all her own work, a task which makes such demands on her time and health that the home ceases to be a home. It would appear that an intelligent choice between buying and producing is also important in the matter of professional and personal service as well as of commodities.

In order that they may buy intelligently and meet the rising demands on an uncertain or reduced income, home makers need accurate, unbiased, reliable information with regard to home making materials and articles. They also need training in ways of securing such information. They need this help also as a safeguard against the advertising to which they are subjected in print but more particularly against the questionable methods of certain firms over the radio. If it can be done, the housewife needs to be trained in the ability to resist sales pressure! <sup>50</sup>

5. *Why is it becoming more necessary to make the home atmosphere an adequate offset to the tension of life outside the home?*

Because the increasing number of duties and responsibilities connected with home making tend to produce the same effect upon the housewife as the increased pressure for efficiency produce upon the wage earner in industry or commerce.

The growing complexity of life is naturally reflected in the home. Under primitive conditions the demands upon the home maker were

comparatively simple in variety although extremely strenuous physically. As our social organization has shifted from the pioneer stage to our present complicated modern society, the recognized responsibilities of the housewife have steadily increased in number and variety. To this has been added higher standards in the performance of home duties.

The distractions resulting from these conditions tend to produce a nervous strain which did not exist in the pioneer home. Since these home duties are steadily increasing in number and complexity and the standard of social expectancy in their performance is steadily rising, this nervous strain constitutes a permanent problem. To this should be added the further fact that the typical home contains one or more wage earners and that when the wage earner returns at the close of the day's work he adds physical and mental fatigue from his daily job.<sup>51</sup>

*A cure for tired nerves.*—In connection with the subjects of recreation and health for the family which are discussed in other parts of this section of the report (see pp. 70 to 73), much is considered that also has application here. So far as the home treatment of nervous strain is concerned, the situation appears to put two responsibilities on the home maker: One is to reduce the strain upon herself by the more orderly planning of her work. The other is to make the home a sort of harbor or refuge, where the "frazzled nerves" and tired bodies of the members of her household can find both a restful atmosphere and suitable recreation through which they may recuperate for the next day's tasks. This can never be accomplished in any home where a disorderly, even though well meant, attempt is made to carry out a variety of unorganized responsibilities. The task calls for a high degree of efficiency in the discharge of home duties, in the planning of home affairs, and in the personal management of the family itself.

Here the only remedy is better home management, the essence of which is systematic planning and its effective execution. Some women are apparently natural-born managers. Some learn it from a competent mother. Most women who do not plan fail to systematize their duties because they do not know how. They can be given much help through systematic instruction in overcoming this trouble. Probably nothing is more greatly needed in the American household than the system, order and quietude which will make it serve as an antitoxin for the nervous strain of our high-speed life outside the home.

6. *Why is there an increased recognition of health as a family asset?*

In chapter III of this report the rising demands as to the physical fitness necessary to carry on any occupation were discussed. Here we are considering more specifically the relation of the physical condition of the home maker to those duties and responsibilities (functions) which grow out of the fact that she is a woman.

Some phases of her occupation are of such a character that situations frequently arise where poor health becomes a decided handicap. In proportion as she is unduly fatigued, nervous, and irritable, she is not competent to handle the management of the home or the training of the children. By a sort of "psychological induction" her condition also extends to other members of the family so that they, too, become less competent to play their part in the family life.

It is unnecessary to discuss in every detail here the close relationship between the ability to bear children and the physical results on the wife and mother. In her triple capacity as a mother, worker, and manager, the physical condition of the housewife becomes probably the most important factor in the performance of the total job of home making. Any weakness that sets the normal human relations of the family awry works against a desirable home atmosphere.

Since the girl of the family must be regarded also as a future home maker and mother, the question of her physical fitness is equally important. Particularly is it true when we recognize that many pathological conditions which affect a woman as a home maker in an undesirable way can be removed or greatly reduced in youth, if detected and treated in time.

All the foregoing statements are made with full recognition that the trend is strongly toward the better physical fitness of American girls. The present generation are more robust than their mothers. They are more athletic; wear more suitable clothes; are less sickly; and have a distinctly more sensible attitude toward the whole question of health and exercise.

*Buyer of health.*—As buyer, the home maker selects and uses or directs the use of a wide variety of commodities and services that affect the physical well-being of all the different members of the household such as: Medical service and remedies; dental service and dental supplies; sanitary precautions and devices; physical exercise and health habits; and wholesome food and healthful diet.

Along with all these trends, preventive medicine has largely superseded remedial measures in the treatment of sickness and disease. The old saying that "an ounce of prevention is worth a pound of cure" has been accepted by both the medical fraternity and millions of laymen. Serums and vaccines for warding off disease have proved better economic investments than the cost of curing it. Keeping physically fit through proper habits of eating, sleeping, and

exercise builds up a successful physical resistance of the body against those ills which cannot be prevented by inoculation or vaccination.

*Keeping the doctor away.*—Plenty of sunshine, outdoor life, fresh air, physical activity, sports, games, hiking, and other wholesome recreation; nutritive food and well-balanced meals; a clean, well ordered home, and sanitary living; the avoidance of quacks and nostrums; and the prompt and intelligent handling of sickness or accident when they occur through team play between the home maker and the family doctor—these are some of the more important features of a health-building, sickness-preventing program for the family which will keep the doctor away until he is really needed. In such a program the playground instructor, the Boy Scout leader, and the home maker become health agents at least as important in the scheme of things as the doctor.

It could be argued that the home maker cannot justifiably be held responsible for the health-promoting or health-destroying habits of the older members of the family, because they have grown out of her control. This could be admitted and still leave her responsible for the physical development of her children during their formative years. She continues to be largely responsible also for the sanitary condition in the home, and the wholesome diet and general health habits of the family.

To the earnest home maker, her most vital responsibility is that of giving the infant a good start and the child vigorous health through properly provided food and protection against dietary and contagious diseases. The most vital contribution of motherhood among the trends has been the reduction in infant mortality and in children's diseases.<sup>52</sup>

There is only one way by which the home maker of this age can be made intelligent and efficient as the chief agent for the health of the family and that is by some form of education. She needs to be informed and kept informed in a practical way regarding all such matters as: The false claims of the manufacturers of patent medicines and of quacks; the purchase and proper use of reliable sanitary materials and devices; the prompt detection of ordinary indications of sickness and disease; the adoption of simple remedies and their prompt use when needed; the selection of a capable and reliable family physician; the prompt recourse to him when the trouble does not yield to simple treatments or the symptoms are not understood; the proper sanitary care of the sick and the safeguarding of other members of the family against infection or contagion; the physical development of the children of the family through healthful play, sunshine and cleanliness; and the utilization in such a program of the recreational facilities of other agencies which are discussed at another point in this section of the report.

None of these matters are in a static condition. In every one of them the usable knowledge and skill, even of the very elementary kind and grade which the home maker would use, is steadily increasing in amount and constantly changing in character. To keep informed even with the help of systematic training in home making would be no small task. Without such help, the task, from the standpoint of efficiency, seems hopeless.

*7. Why is it becoming increasingly difficult to provide proper or adequate recreation in the home?*

There has been a steady increase in the facilities and provisions for recreation outside the home which afford a greater opportunity for members of the family to secure their recreation either individually or with members of other families. Any partial list of these newer or increased older facilities should include theaters, movie houses, auditoriums, stadiums, ball parks, rinks, dance halls, parks, playgrounds, art galleries, museums, golf courses, tennis courts, basketball floors, improved roads, automobiles, motor boats, and now the airplane.<sup>58</sup>

*Old and new recreations.*—Against these growing lures, the piano was about the only source of family recreation in the old days. The phonograph added to the possibilities and later the radio, along with the development of all sorts of games. Curiously enough, the automobile has worked both ways in its effects upon home recreation. It served to bring many families together again because of their common love of new experiences. But the machine could not be taken into the parlor and gave satisfaction only as it was able to take the family swiftly to far places and away from home. In 1930, 40,000,000 people participated in pleasure travel, most of it by auto.

*More costly pleasures.*—"There can be no doubt of the trend away from the simple and less expensive leisure time pursuits to those that are more costly; bicycles have been replaced by automobiles; and canoes have given way to motor boats. Quiet vacations spent at home or in closely adjacent localities have been supplanted by vacation motor tours covering many hundreds of miles and involving considerable financial outlay. No popular outdoor game of a generation ago required even a small fraction of the expenditures that are now made to provide facilities for the playing of golf. An important characteristic of present day recreation when compared with that of the past is the general increase in its cost." (Recent Social Trends, vol. 2, p. 953.)

*Increased leisure time.*—Another factor affecting the whole situation is the unmistakable trend in the direction of increased leisure time. Unless some amazing economic change takes place, it can be

safely predicted, people will have more and more leisure time for recreation both inside and outside of the home. The best use of that time will be one of the major social problems of the future with which the home must be vitally concerned.

For a number of reasons the home maker is vitally concerned with this matter of proper and adequate recreational facilities for her family. She cannot abolish forms of recreation which she believes to be harmful to her family, or which, from her standpoint, at least, are socially undesirable. But she can do her best to provide other and more desirable games and sports as a substitute. Listening to approved numbers on the radio at home, family picnics and playing wholesome games with neighborhood children, to illustrate, have been made by some to offset the evil of the neighborhood "gang."

*Supplementing home amusements.*—For lack of facilities, if for no other reasons, the home maker cannot make recreations within the family circle a complete and adequate substitute for all forms of recreation outside the home, but she can make the latter supplement the former. No balanced program for the urban family, for example, can omit the movies altogether, but it can make an intelligent, discriminating selection of the kind of films the family will patronize. With a wealth of facilities for wholesome games, sports, and entertainments provided by public, philanthropic, and commercial agencies, her problem is not to ignore them but to make them in a very real way a part of the equipment for the recreational program of herself and her family.

The typical home maker who is to discharge the main responsibility for the recreation of the home cannot acquire the ability to do it except through some form of education. She needs to be taught what recreational facilities are available in her community and how her family can make use of them to the best advantage. She needs to be taught the differences between forms of recreation that are socially desirable and those that are socially undesirable as well as the characteristics of each, so that she may select the former and avoid the latter. She needs to know what wholesome recreational activities have proven successful in the home and how they can best be introduced and fostered there. What she needs is job intelligence in handling the family's recreational problem.

8. *Why is it increasingly important to make intelligent use of available forms of social services?*

The short answer is because they are so numerous and so diversified in the kind of social service rendered; they have developed so quickly; and they are increasing so steadily. The last two decades have witnessed the establishment of various kinds of social service and service agencies. Perhaps the simplest definition of a social service is

that it is one which aims without profit to help people in dealing with some human problem; or to improve them in some way; or to give them wholesome pleasure. One illustration of this would be the free public playground where tenement-house youngsters can play in safety. A service agency is any organization—public, philanthropic, or private—which operates the service. As will be seen, this report includes as social service the special helps to the family which are now supplied by public taxation.

*A partial list of social services.*—Here it will not be possible to do more than list for illustration a few of the many social services which, taking the country as a whole, have had widespread development in the typical American community. No attempt is made to distinguish between tax-supported and philanthropic or semiphilanthropic enterprises: Nurseries and nursery schools, kindergartens, libraries, and public, parochial, and endowed schools of different kinds and grades; free dispensaries, medical and dental clinics, hospital service and visiting nurses; churches and Sunday schools; public parks, playgrounds, museums, art galleries, free lecture courses, free public concerts and singfests, Girl Scouts, Camp Fire Girls, Boy Scouts, 4-H Clubs, Future Farmers of America, Junior DeMolay, and the Youth Organizations of Religious Societies; relief work, Sunset homes, homes for the aged, home-economics clubs, mothers' pensions, and a wide variety of eleemosynary institutions and services.<sup>64</sup>

There is still another group of agencies, however, that need to be considered here which, while admittedly operated for profit and not as a philanthropy, often provide at low cost invaluable service to the home maker. A very good example is the Consumer's Research Service which, for a small fee, undertakes to give information regarding various products that are consumed in the home and are bought by the home maker. Among these agencies, also should probably be classed the employment offices for domestic help, and the like, which do not give information but actually relieve the home maker from some definite part of her job.

How extensively all these services, taken together, have been developed geographically and in variety is perhaps best shown by the amount expended for the maintenance of free social services, public and private. In the 16-year period from 1915 to 1930, inclusive, the total cost for schools, libraries, recreation, conservation of health, hospitals, charities and mothers' pensions rose from less than 860 million to more than 3,705 million, an increase of more than 330 percent.

In passing, it should also be pointed out that this same 16-year period has witnessed a decided trend toward the support by public

taxation of many forms of social service which, in a more laissez faire age, were regarded as lying entirely within the field of private philanthropy. Notable in the list of such services are all forms of poor relief, homes for the aged, old-age pensions, mothers' pensions, free medical service and the like.

*Increased facilities for home makers.*—The significance of this amazing growth in social services, most of which, in a simpler era, the individual either provided for himself or did without, is that they have greatly increased the resources of the home maker. If, to illustrate, in the up-bringing of her children, she needs books and cannot buy them they can be secured from the library. Knowing that a medical examination during a diphtheria scare should be made of the youngest child who has a sore throat, but unable to pay for the service, she can secure it from the free clinic. Left a widow without resources, the home maker who must go out to work finds the day nursery a boon without which she must place her young baby in an orphanage.

There has accompanied this extensive development of social services a changing attitude of the American family toward many forms of social service. Formerly all of them were regarded as charity and therefore to be avoided. In the beginning this applied to the free public schools which were dubbed "pauper schools." Ignorance and fear of some agencies also operated to prevent their use, notably health agencies. All now accept such services as free schools, free library, free parks, art galleries, museums, and playgrounds as a matter of course. Free dispensaries and clinics are now used with confidence by thousands who are unable to pay the high cost of private medical aid.

*A changing attitude.*—Many home makers still believe that to call in a district nurse or take advantage of a public dispensary would be a distinct acknowledgment that the family belonged to lower social levels. This feeling of pride prevents many a family from calling upon such service from which it would often derive great advantage. There can be no doubt that the pronounced drift is in the direction of collective action in handling most forms of social welfare. We may expect public control and support by taxation of all the old social services formerly classed as "charity." They will cease to be regarded as charity and become rights to citizens who stand in need of them.

There will be a corresponding increased use by home makers of social services—a fact which makes it all the more necessary that they should be intelligent consumers of such services when and as needed. This requires some form of educational service that will give home makers three helps: (1) Teach them when the home con-



ditions make it to the economic advantage of the home to call in this, that, or the other type of social agency; (2) inform them regarding the various available social services and agencies in the community, what kind of assistance each can render, and how to take advantage of such assistance; and (3) overcome the objection of those women who ought to take advantage of such services.

9. *Why is it increasingly difficult to bring the home up to socially desirable standards?*

Because there are more standards to be met; they are different, because of differences among experts and in public opinion; and they are constantly changing and advancing. Standards are the measuring sticks by which we compare and rate things of the same kind. Standards of living, to illustrate, are the measuring sticks used in comparing homes regarding living conditions, as the result of which we rank some homes as better than others. On the other hand, social standards, as the term is used here, may be regarded as the measuring stick by which we can pass judgment on homes as to all such things as culture, refinement, morals, obedience to law, and civic worth.

In the field of home making there are few, if any, standards which may be regarded as of general application. Nor can it be maintained successfully that home makers have any set of definite and uniform standards which each has developed and applied to her own home. Such standards as have been recognized have been largely set up by certain groups of experts in home economics, or have developed out of the group opinion of the more intelligent and ambitious home makers, or exist in public opinion. Whatever the source, homes and home makers are rated perhaps very roughly against various standards which are constantly changing and advancing because they respond both to changing conditions and ideas.

*Producer to consumer.*—Seventy-five years ago, to illustrate, the home maker was rated almost entirely from the standpoint of her ability as a producer of home-made commodities. In the days when she spun her own wool, wove her own cloth and made her own soap, the skill of the housewife in these duties gave her a neighborhood reputation as a good or a poor home maker, and her home was regarded as good or poor according to the economic value of her work. Now that she has been relieved of a great deal of the old production work and has become more of a consumer than a producer, she is rated as a good or poor manager according to her intelligence as a buyer in the selection and utilization of commodities and services. As has already been pointed out, new findings in nutrition, fabrics and equipment make it difficult to keep up-to-date.

*The main business of a home.*—A half century ago children grew up somewhat like puppies who received but little more treatment than food, clothing, shelter and occasional punishment when troublesome. As might have been expected, infant mortality in this pioneer era was high. Nobody was worried about child psychology, because nothing was known about either it or the child study clinic. When the offspring showed a tendency toward freedom of expression a visit to the woodshed soon "taught him what was what."

The last two decades have been characterized by a very great interest in child care and child development. Impressed by the social importance of the better conservation of the child, tens of thousands of women are today earnestly endeavoring to apply the teachings of the experts to the problems they face in the rearing of their own children. To an increasing degree, a good home maker is becoming one who rears a family of wholesome young men and young women, and a poor home maker is one who fails in the attempt to do the same thing.

*Judging homes and home makers.*—Not only has there been a shift in the chief home activity by whose performance the home and the home maker are in the last analysis rated. As technological advance has provided the knowledge and the commodities with which the home can be improved in many matters, public opinion has raised its standards of home life correspondingly. We apply these higher standards in judging a home to be sanitary, or cleanly, or well equipped, or well organized, or modest, or convenient, or attractive, or dignified, or God-fearing, or law-abiding, or socially desirable. These words represent our struggling effort to pass judgment upon a home which pleases us and whose condition reflects the home maker.

These and similar phrases commend the American home at its best. It should be remembered, however, that there are many thousands of homes which fall in some or many respects below common, accepted standards in home making. Raising these homes to a better level is probably as socially important as helping the better home maker to keep pace with the changing requirements and possibilities of her duties.

*Improvement from within.*—Homes can be improved but little from without. Expecting the home maker to improve her home from within, without giving her better standards and helping her to put them into practice, is almost as fruitless. She must somehow be helped to help herself. This can only be done by some form of education. If the educational job is to assist home makers in raising the level of their homes as measured by standards, it makes little difference who sets up these standards as long as they furnish usable, feasible, and socially sound yardsticks by which to set goals for the

housewife in the improvement of her home and by which to indicate the progress she is making in their attainment.

If the main goal is to raise the level of the home, every home maker can benefit by an educational program for this purpose; consequently there needs to be a tremendous development of home-making programs in all the States. Since standards and conditions in home making are constantly changing, the training in home economics, now given to girls almost entirely through the high school, needs to be continually modified.

In the case of any group, the standards and training should lie within the range of feasibility—the range of what the economic condition and probabilities of the group make possible for them to realize in their present or prospective homes. It certainly would not be socially desirable to present a home-making program to any group which would be so far above the real conditions they face as home makers as to discourage them or increase their dissatisfaction with their “lot in life.” All this points to the necessity that teachers of home making subjects keep themselves acquainted with the practical possibilities in the homes with which they deal.

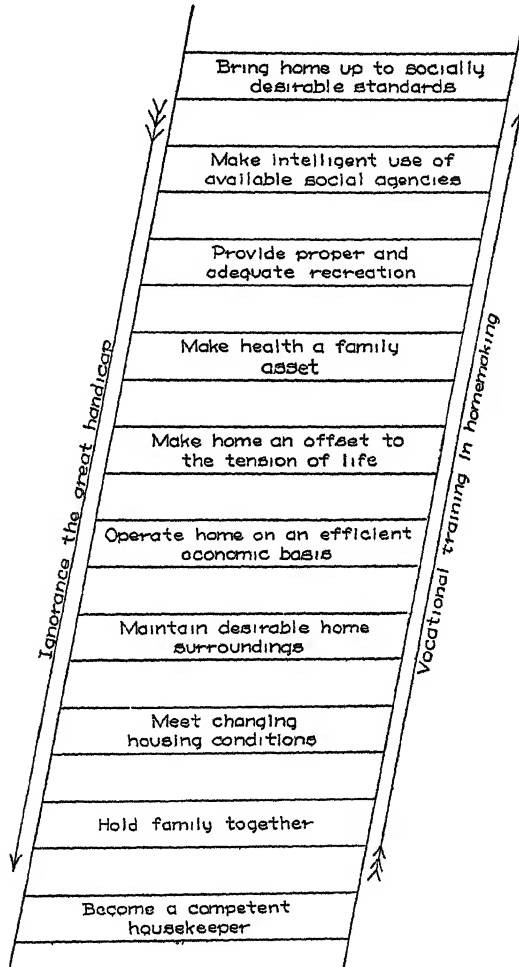
10. *Why is it becoming more difficult to become competent as a home maker?*

In discussing the question, why is it more difficult for the farm youth to be a competent farmer, the word “competent” is used in a special sense—to indicate what a worker is able to do as compared with recognized standards as to what the proper performance of the job demands. That kind of competency is not a static ability to be acquired once and used forever. In virtually all modern occupations, and home making is certainly no exception, it is fluctuating because changes in skill and knowledge set up new demands on the worker which at once make him less competent unless and until he acquires the new assets. Given a static home maker who has ceased to be alert to new skill and knowledge and the dynamic job of home making, the widening gap between what it demands from her and the assets she really possesses measures her steady loss in real efficiency.

*A big job.*—Not only is competency in home making more difficult to maintain even when once acquired, it is also more difficult to acquire in the first instance and for the same reason. Research and invention are constantly enlarging and shifting the content in skill and knowledge required in the home. Their contributions to all fields of home making call for constant interpretation so that they may be put in language which will be understood by the home maker and used. More outside forces are playing upon the home than formerly, many of which, such as obscene literature and movies, to illus-

trate, are undesirable and need correction. Social expectation is constantly assigning new duties and responsibilities to the home and raising the standards for their performance.

*A Ladder to Efficient Home Making*



Apparently all these kinds of changes are being made at a constantly accelerated rate. Engaged in a dynamic job any home maker may certainly be regarded as progressively less competent unless ar

until, through systematic education, she is given a chance to close the gap between what she knows and what she needs to know. This statement applies just as well to the girl who is still in school as to the housewife.

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## CHAPTER VII

### SIGNIFICANT SOCIAL TRENDS AFFECTING THE WORKER

Thus far in this report we have considered mainly the economic trends in the life of this democracy. It has been pointed out that these trends have been caused primarily by a desire for the production of greater wealth or for the cheaper production of wealth. As contrasted with economic trends, social trends represent changes in social conditions, in social procedures, in social attitudes, or in social thinking.

1. *There is an increase in the comparative number of persons who are in some way socially maladjusted.*

An individual is adjusted to any organization when he plays his part in it up to at least a reasonable degree of efficiency. But when he fails to do this, we say that he is out of step with or maladjusted to its aims and procedures. In this country public opinion expects every citizen to conform to certain reasonable requirements. He is expected, for example, to obey the law; to be self-supporting; to respect the rights of others; to practice habits that do not imperil the health or safety of his neighbors or fellow workers; and to be faithful to his home. Crime, dependency, social abuse of any kind, insanitary habits, and desertion or adultery are all, therefore, evidences of social maladjustment.

There are numerous maladjustments in our society, but our discussion here is confined to three trends only: Increasing number of crimes and criminals; increasing difficulty of finding and holding suitable employment; and increasing number of broken families due to divorce or separation.

2. *The growth of crime and disobedience to law furnish the most significant evidence of increasing social maladjustment in this country.*

No one questions any longer the fact that this country is facing an appalling increase in the number of crimes and criminals and that the rate of increase apparently is being constantly accelerated. The number of felons is increasing at least 10 times as fast as the general population. Two recent studies seem to establish beyond doubt also the fact that reformation through the indeterminate sentence and the parole system for prisoners is "a conspicuous failure."<sup>55</sup>

"The fact remains, according to these two studies, that reform does not reform. Perhaps society will soon learn—may even be learning now—that delinquency can be curbed only through freer and happier environment, a more equal chance in the struggle for existence, and through earlier diagnosis and treatment of delinquency's preventable causes."<sup>†</sup>

Because the juvenile offender soon becomes the adult criminal, he constitutes the leading source and therefore the point of constructive attack on the crime problem. Apparently all our prevailing methods of attack have failed—detection, apprehension, conviction, indeterminate sentence, probation, imprisonment, reduction of sentence for good conduct, parole, and release. Judged by the statistics these devices seem to have caused an increase in crimes and criminals.<sup>56</sup>

*Education and crime.*—More perplexing still, our record of crime and lawlessness, unparalleled in any civilized country, has been made in recent decades during which record breaking millions have been expended annually for education, and the annual enrollment in schools of every kind and grade has also reached record breaking figures.

Among those who recognize these facts a widening discussion is now going on in which one group contends that our growing maladjustment as to crime has occurred "in spite of the excellent training for law-abiding citizenship which the schools have always given", and the other group, that much of it is due to "a failure of the schools to train our youth for the real demands of life."

This report does not undertake to settle that controversy or to discuss the many different theories and notions abroad as to the causes of the rapid increase in juvenile delinquency. We are concerned here only with the significance to vocational education of this alarming trend.

*What the penologists say.*—In connection with the study on which this report is based, a questionnaire was sent to some 80 heads of correctional institutions, reformatories, and penitentiaries. The inquiry sought to ascertain the opinion of those responding as to whether "one important cause of delinquency and criminality among young people is the fact that they have never learned how to work so as to be able to make money legitimately sufficiently to meet their real or fancied wants." Sixty-five replies were received. Of these 54 or 83 percent answered "yes" and only 8 percent "no." †

\* Literary Digest, Mar. 10, 1934.

† In their replies the remaining three advanced other causes as did some of those who checked "yes" on the questionnaire, as well as some of those who checked "no." An examination of the other causes advanced by these 65 experienced penologists shows that most of them are very close in their meaning to the main questionnaire.

Seven gave as a cause lack of family and school training in habits of industry, the performance of honest work, and "in the proper moral point of view"; 5, extravagant desires beyond the reach of earning power or status in society, 2, lack of desire to work for what one wants; 2, lack of sticktoitiveness; 2, lack of family and school training in handling earnings; and 1, impatience at delay in reaching the point where fancied needs can be met legitimately.

*The wardens' point of view.*—The point of view born of long experience in dealing with delinquents and young criminals held by the overwhelming majority of those who answered the questionnaire has probably been best expressed by Lewis E. Lawes, warden, department of correction, Sing Sing Prison, Ossining, N.Y., in an article under the title "A Challenge to the Schools", which was first published in the September 1932 issue of *Good Housekeeping*:

"Education must realize its proper place in the new scheme of things. No education can be complete without adequate training for a vocation that will equip the boy or girl or adolescent to meet the requirements of the new dispensation. Many, perhaps most, of our great army of school children will be able to follow their natural inclinations. Circumstance, environment, opportunities will play their parts in shaping their lives. But a certain group must be especially trained and guided. It is from this group who generally fall by the wayside that our behavior problems arise. It is with those that education must seriously concern itself. The scope of the school must be widened so as to teach every pupil a vocation, to train him to a specific trade or occupation commensurate with his individual and intimate abilities.

"Only the impractical idealist and dreamer will expect the utter disappearance of all crime. The accidental criminal—the one who commits the sex crime, the crime of passion or emotion—will probably remain as long as man endures. There is, however, every hope for the abolition of crime as a profession. There should be no good reason for the continuance of violent crime for acquisitive purposes.

"My hope is based on practical and enlightening data from the records of Sing Sing Prison. I find that less than 5 percent of the prisoners in Sing Sing have had vocational or trade training. I find, furthermore, that colleges contribute a higher percentage of prisoners than trade schools.

"If these facts mean anything, they certainly indicate the necessity for preparation for definite vocation in life. Academics may be all right for pupils with a natural inclination for scholastics or professions, but public and high schools must remold their scope so as to include practical vocational training for the manual-minded.

"The trend of American life has outmoded the traditional theory of the survival of the fittest. It is the fit who survive. The measure of fitness is the degree of proficiency in definite occupations. Boys and men must learn to work just as they learn and are taught fundamentals of education."

3. *Employment in an occupation for which a person is not suited is one widespread form of social maladjustment.*

This kind of maladjustment we have always had with us and probably always shall have to some degree. Given an economic



system in which every man was following the occupation for which he was best fitted in interest and ability and the millenium would have arrived! The real question here is whether conditions are such that workers now have greater difficulty than in the past to secure and hold steady employment at a living income.\*

*Decreasing competency.*—The social phenomenon basically involved in these rising demands on workers is that the number of wage earners, who are unable to secure or retain steady employment because they are not thoroughly competent, is increasing. Lack of competency in employment constitutes a very definite social handicap. An individual who cannot earn enough to support himself decently is almost as much socially maladjusted as if he had lost an arm or a leg. And almost if not quite as fully socially dependent!

By Federal legislation (under the Smith-Hughes law and the vocational rehabilitation law), provision has been made for Federal support and cooperation with the States in providing vocational training which will aid both the normal worker and the handicapped man to become more competent as a wage earner. While commendable progress has been made in programs of training for both groups, the States, partly for the reasons just given, have, comparatively speaking, developed their programs for the benefit of the latter more extensively, on the whole, than for the former. This is due in part to the fact that a physical handicap is easily recognized and wins ready sympathy, as it should, and to the further fact that programs for the rehabilitation of disabled persons have met with less opposition from the general education authorities.

*4. There is an increasing public sense of responsibility for the handicapped.*

In a broad sense, any person is handicapped who is at a disadvantage in performing any duties or discharging any responsibilities as a member of the social body to which he belongs. Used in this sense, the insane, the sick, the illiterate, the so-called "underprivileged groups" and the young people who are protected by special laws and regulations because they are not equipped to play their part in life at their age—all are handicapped groups. No proof is necessary for the statement that the general attitude of the public toward handicapped persons has been changing, and never so rapidly as during the past 2 decades, in the direction of the assumption of a greater responsibility for their welfare.

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\* Many causes of this condition were discussed in chapter III of this report where 6 increasing difficulties common to workers in all occupations were shown; in chapter IV where 15 increasing difficulties are faced by wage earners in industry and commerce; and in chapter V where 10 increasing difficulties must be met by those engaged in competitive agriculture. (See pp 17 to 23, 31 to 42, and 45 to 53.)

*The size of the problem.*—We are here, however, more immediately concerned with the group who are economically handicapped because they are physically handicapped. Congenital disease or deformity makes it difficult for some of them to secure and hold employment, while subsequent accident to others prevents them from continuing in the old occupation. As a conservative estimate, the number of permanently handicapped persons of both sexes in the United States at the present time exceeds 398,000. The problem is increasing in size from two causes—the national growth of our population increases correspondingly the number of congenitally handicapped persons, while the total number of accidents from all causes including industry and the automobile, is increasing annually also.

The discharge of the growing sense of public responsibility for the physically handicapped has been effected through rehabilitation training, most of which is carried on by the States in cooperation with the Federal Government under the provisions of the Vocational Rehabilitation Act, adopted in 1920. Since the common characteristic of all the members of this group is that they are handicapped with regard to earning power, vocational training in plant or office constitutes, in most cases, the chief service through which the handicap is reduced or removed, but there are other services almost equally important.

*The rehabilitation program.*—The rehabilitation service stresses vocational training that will equip the handicapped person better for wage earning; vocational guidance that will help him to find an occupation which he can follow successfully with his particular handicap; placement and follow-up service on a suitable job; employment training on the job as the only means of learning many occupations; other training as needed; physical reconstruction where this is feasible; artificial appliances to take the place of missing members and strengthen weak ones; maintenance in some cases while in training; and any other service necessary to restore the case to self-support.

*Much to be done.*—Some idea of the growth of the need for rehabilitation service for the handicapped citizens of the various States can be gained from their annual reports to the Federal Board for Vocational Education regarding the use of Federal and State funds for that service during the 13-year period from 1921 to 1933, inclusive. In this period the live load of persons contacted by officials and classified as needing rehabilitation service rose from some 3,300 to over 30,000 cases. Even with this rapid increase the number needing this service today undoubtedly exceeds the number receiving it many times over.

This gap between those needing and those receiving the service will remain permanent and probably grow until and unless more public funds are applied to the extension of the service. If, as figures show, the conversion of a dependent into a self-supporting citizen costs far less than to let him remain a social dependent, the rehabilitation of physically handicapped persons would appear to be simply a good business proposition in which public funds can be invested on the general principle that "a stitch in time saves nine."

5. *There is a changing concept of education from that of training for leadership alone to that of mass education as a remedy for social maladjustment.*

It is a matter of common knowledge that for a number of years a changing concept has been developing of the function of education as a social agency. In general, this change has been reflected in the writings of a large number of laymen as well as professional educators. This general tendency in the trend has been to shift the conception of the purpose of education from that of training scholars and leaders to that of training for the contemporary life needs. This general fact is so well known that it calls for no special discussion or proof here, particularly since the literature on the subject is ample and easily accessible to everyone.

*The democratic trend in education.*—In our own day this trend toward education as adjustment to life has been manifested by all such movements as vocational education, adult education and education for special groups such as the various types of handicapped people. As in all cases involving change in education, the modern conflict is between two conflicting philosophies; one that the way to save the country is to select or train a few for leadership; and the other, that the way to save the country is to train for intelligence in the real affairs of life on the part of the great mass of citizens.

*The pronounced social drift away from individualism* and toward group action either indicates an acceptance of the latter philosophy or makes its acceptance imperative. If collectivism in our economic and social affairs is to take the place of individualism, then the mass of ordinary citizens must be made more intelligent in the making of decisions and more competent as team workers in executing them. On the other hand, should rugged individualism in the end prevail, it also requires for its perpetuity a more and more competent individual.

*Education for democracy's demands.*—Thirty or forty years ago the conservatives were very completely in control of education in this country. Since that time the introduction of new objectives, new

subjects, and new methods have been constantly and vigorously resisted. In spite of this opposition, however, the objectives of education are slowly being restated in terms of democracy's demands and the citizen's needs; subjects and subject matter are slowly coming to be selected for their use-value; and methods of instruction are slowly being reformed as factual education gives way to training in the ability to think with usable information.

Two general effects of all these trends in education are a steadily increasing recognition of vocational training as a part of the general function of education to prepare people for the real demands of life, and a gradual acceptance of the new educational service by general educators as a legitimate part of the public-school program.

*Leaven for the lump.*—Since workers were originally regarded as an inferior class, the introduction of vocational training and other mechanical subjects into the scholastic program naturally lead to a feeling on the part of the conservative educator that to train people to work degrades more or less the standing or prestige of education. As younger and more progressive men have come into the control of the school program this attitude has been steadily modified.

Vocational programs are more readily accepted as an organic part of the educational service both for youth and for adults. This acceptance is only one of many manifestations of the changing concept of education. As the more modern idea of education as a social agency has spread, the resistance to the establishment of vocational programs has naturally been reduced.<sup>57</sup>

6. *There is an increasing tendency toward public vocational education.\**

If the work of the world is to be done and done efficiently, some provision must be made for vocational training. Some provision has always been made somehow. If necessary knowledge and skill had not been secured, the work of the world would have stopped long ago.

Almost from the time of primitive man, the general tendency has been to shift the job of vocational training to special agencies of some kind. In the heyday of apprenticeship, the guilds assumed the responsibility for the training of craftsmen. Now specialization has wrecked apprenticeship in most trades and some form of school training operated either inside or outside the plant is needed to take its place.

\* This trend is due largely to causes which have already been considered in foregoing pages and which will not, therefore, be discussed further at this point, except to list them and refer the reader to previous discussions: Reduced chance for the worker to learn a skilled occupation on the job (pp. 26 to 28), our changing conception of the function of education (pp. 86 to 87); falling off in employer training (pp. 26 to 28) increase in occupations requiring organized training in whole or in part (pp. 38 to 39) and the increasing technical content of occupations (pp. 17 to 19).

Most of the agencies that have been used for vocational training have been private. At present very wide provision is made in certain fields, particularly by profit-making agencies in the commercial field, for the vocational training of workers in the technical knowledge they need but cannot get under modern conditions from office or shop or farm or home.

*The case for public vocational education.*—As time has gone on it has appeared more and more desirable that vocational education should become a function of the State for various reasons:

First, vocational training very greatly affects the economic interests of the wage earner, the employer, and the public. These interests are not always identical. The complete control of vocational training by any one group—the employer group, the employee group, or the professional educator group—might lead to situations where vocational education would serve an antisocial rather than a social purpose.

Second, since under the more modern concept of education, all forms of education should be carried on for the ultimate benefit of society, it becomes imperative that vocational education should become a public function.

Third, since society benefits by the various occupations in proportion as they are carried on efficiently, it is desirable that the public, through its representatives, should be in a position to control the character of vocational education.

Fourth, if the general theory of democracy in education be accepted, a citizen or the child of the citizen has as much right to free vocational training as he has to training for college or to any other form of training which is provided at public expense on the theory that it is valuable to the progress of society.

Finally, in proportion as other provisions for vocational training disappear or employers, farmers and housewives become unable to transmit to their helpers the knowledge and skill they require, that function will have to be taken over by the public if the training is to be continued.

The recognition of these reasons that vocational education should be made a function of the State led to the adoption in 1917 of the Vocational Education Act. Under that act funds are appropriated to the States to aid them in establishing and maintaining local vocational schools and classes of secondary grade in agriculture, home making, and industry. During the 15-year period from 1918 to 1932, inclusive, the number of students enrolled in all vocational schools and classes operated under the Vocational Education Act rose from less than 165,000 to more than 1,175,000, an increase of over 600 percent.

7. *We are facing, as the result of causes long at work, a geographical shift in lines of business products, plants, and workers which emphasizes, the interstate and national character of the vocational education problem.*

The increasing migration of occupations and workers has already been discussed, as well as the wide shifts in the geographical areas in which different agricultural products are produced successfully. We are here concerned with the extent to which these changes affect the population and employments of the various States. Mergers and consolidations of companies and plants have caused the closing of many establishments and the transfer of their equipment to other States.<sup>58</sup>

*Manufacturing shifts among the States.*—In 2 decades from 1910 to 1930, pronounced shifts took place among the States in the location of various lines of manufacturing. In the textile business the shift has been from the North to the South; in shoes, from the East to the Midwest and the Pacific coast; in printing and publishing, from the East to the Midwest and South; in millinery, from the East to the Midwest; in the needle trades from New York to Puerto Rico; and in the cigar business, from Habana to Trenton.

*Workers shift among the States.*—Increased worker migration in normal times has been made necessary in large measure by geographical shifts in occupations, while better travel facilities have tended to make more rapid job shifting possible. Since men shift from one locality to another in order to better their occupational prospects, pronounced shifts in population furnish one significant indication of the corresponding shift of workers and occupations.

*Population is shifting among the States* toward the great cities, the areas of high density and the trade areas bordering our coasts. Wide variation in the growth of population from State to State is another indication of the extent to which workers migrate from one State to another in order to find employment. In the decades from 1910 to 1930 the population of 2 States more than doubled; that of 5 other States increased more than 50 percent; that of 3 other States remained almost stationary; and that of the remaining States increased at different rate of less than 50 percent.

*Wide fluctuations in workers and occupations.*—Perhaps the most significant picture available is furnished by the wide variations in the number of persons in the various States who were employed in different occupations during the 20-year period preceding 1930. The range of these changes varied all the way from a loss of 2 out of every 5 farmers in New Hampshire to an increase of more than 3 new clerks for every old clerk in Florida.<sup>59</sup>

Startling as are these wide fluctuations among the States regarding the employment of workers in different fields of occupations, they

are even greater in the case of some specific groups of occupations such as those of the cotton industry, printing and publishing, and the manufacture of shoes.

In the list for 1930 of specific occupations in the different States are also many hundreds of occupations and jobs which had little or no existence 20 years earlier. Notable among these are the manufacture, installation and operation of radio equipment; the production and use of the photoelectric cell, sound equipment, hard plaster finishes, lacquers, cellophane, rayon, celotex, and other synthetic materials; and the production, repair, and upkeep of autos and trucks.<sup>60</sup>

*A joint and mutual problem.*—This continued, increasing, fluctuating interchange between the States of workers and the children of workers has created special social and economic problems. As was pointed out in 1914 by the National Commission on Vocational Education, these problems transcend all State lines because they are interstate in character and national in their scope and importance. Among the problems to which the Commission had reference are those which have to do with the vocational adjustment of migratory workers to a new and strange environment where they and their offspring need the help of an efficient vocational advisement, training, and placement service.

As early as 1914 the Commission discussed this problem of the migratory job and the migratory workman. A man may be born in one State; obtain all the general education he ever receives in a second State; learn a wage-earning occupation in a third State; and either follow that occupation in a fourth State or shift to a different occupation and migrate from State to State in following its fortunes. A single great corporation may have its headquarters in one State, operate plants in a dozen different States, and employ workers recruited from virtually every State in the Union.

*Interstate and national in character.*—Two decades ago the Commission realized that the migratory occupation, the migratory worker, and the interstate corporation created problems of an interstate and national character which could best be solved by the States in cooperation with the National Government. All the data gathered by this study shows that the conclusions of the Commission were based on trends in the shifting of occupations and of workers which, at a greatly accelerated rate, are still at work in our own day. They argue for a continuation of the policy of cooperation with the States in the support of vocational education which in 1917 was established by Congress under the Vocational Education Act.

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## NOTES AND REFERENCES

In this section of the report are given some notes and references bearing on the text of the report. They have been added, in some instances, to further explain, and in other instances, to furnish proof of statements made in certain parts of the report. No pretense is made that these notes are either comprehensive or exhaustive. They have been added simply as helps at those points where it was thought they were specially needed to clarify or support the declarations in the report.

The arabic numbers of these notes and references correspond to identical numbers introduced in the text of the body of the report. The page reference at the close of each note is to the page of the report to which the note refers. The reader of the report in turning to page 13, for example, finds reference to explanatory or supporting notes. The reader of any one of these notes, on the other hand, can locate the page of the report on which the note bears by the page number given at the close of the note.

<sup>1</sup>*Discovery and invention fundamental.*—See Vocational Education in a Democracy, Prosser and Allen, pp. 21-23.  
(P. 13.)

<sup>2</sup>*Increasing frequency of invention.*—See the Economy of Abundance, Stuart Chase, pp. 73-77. As bearing on the future curve of invention, Chase notes that there have been some 1,500 research laboratories established in this country since the war. He notes also the increase in the number of patents granted in the United States during recent decades, from 208,000 in the decade ending in 1890 to 421,000 in the decade ending in 1930 (Ibid. p. 76).

Of the 599 firms replying to a questionnaire sent out in 1928 by the National Research Council, to manufacturing concerns having a commercial rating of \$1,000,000 or over, more than half (52 percent) reported that they carried on research as a company activity; an additional 7 percent conducted laboratories; 29 percent were supporting cooperative research through trade associates, engineering societies, universities, or endowed fellowships; 15 percent were considering extension of research activities, and 11 percent doing no research at the time, were considering taking it up. (S. S. Hunt, Audit of America, A Summary of Recent Economic Changes in the United States, p. 26.)  
(P. 13.)

<sup>3</sup>*The invention of inventions.*—Walter Lippman: "A really new thing has come into the world. That thing is the invention of invention. Men have not merely invented the modern machine. \* \* \* They have invented a method of inventing. Mechanical progress has ceased to be casual and accidental, and has become systematic and cumulative. We know, as no other people ever



have known before, that we shall make more and more perfect machines." (Quoted by Stuart Chase, *The Economy of Abundance*, p. 97.)

(P. 13.)

*'How the chemist has "helped to upset the economic world."*—A very few outstanding examples of what the application of the results of chemical research to industrial processes means in the economic world are noted in the following excerpt from a letter from a well-known chemist. It should be explained that the letter was not intended to be, in any sense, exhaustive:

The synthesis of dyestuffs replacing such natural products as indigo and alizarine is classic, but now we make hundreds of colors for which there is no counterpart among natural products. Among the recent disturbances caused by synthetic chemistry, there should be mentioned the fixation of atmospheric nitrogen, which has so seriously affected Chile, the breaking of Japan's natural camphor monopoly by the synthesis of that compound from American turpentine, and the hydrogenation of coal and coal tar to produce a petroleum-like fluid from which a satisfactory motor fuel is obtained. This is being done commercially in Germany and will soon be in production in England. We now synthesize methyl, better known as wood, alcohol from carbon monoxide and hydrogen. This has been a blow to the hardwood distilling industry, and was followed by the synthesis of ethyl, or grain, alcohol from hydrocarbon gases. Naturally this is disturbing to those who would sacrifice everything to increasing the nonfood use of agricultural products. The perfection, a few years ago, of cellulose-type lacquers revolutionized the varnish and lacquer industry, and at present a new phase is making its appearance in the paint industry, through the use of synthetic resins in protective coatings.

Synthetic resins have disturbed the shellac and hard-rubber markets, although their use has made possible many new products, and now we have several forms of rubber articles entering the upholstery field and competing there with older materials. Rayon and similar chemical fibers have increased the competition among all sorts of textiles, and this will increase with the further improvement of these new fibers. Certainly cellophane has made life more difficult for the manufacturers of special wrapping papers, while the artificial sausage casings, slowly but surely, are invading the field heretofore monopolized by the casings made from the intestines of hogs and sheep. Such a list could be extended almost indefinitely.

On the mechanical side, there are such examples as the perfection of alloys suitable for cutting metals at high speeds and the improvement of special grinding wheels which have changed procedures in the metal-working trades. Obviously, too, it would require more men to make more tires for our automobiles if ways had not been found, through research, to so improve tires that they now give us many times the mileage once thought satisfactory. However, the greatly reduced tire cost per thousand miles has meant enormous savings to the general public.

—HARRISON E. HOWE, editor, *Journal of Industrial and Engineering Chemistry*.

(P. 13.)

*'Changes of the past 50 years.*—Garet Garrett, writing in the *Saturday Evening Post* of Jan. 21, 1932, notes the following changes of the past 50 years: "The world at this time (50 years ago)", he says, "is still lighted by the gas flame and the coal-oil lamp; it is warmed at the stove and open fires. There is no oil industry but for kerosene. There is no electrical industry for light, heat, and power. The limit of power transmission is a belt training on pulleys. There is no fabricating steel industry for steel bridges, steel buildings, and skyscrapers. There is no such thing as an automobile; therefore, no motor-car industry. There is no industry founded on synthetic chemistry, because there is no synthetic-chemical industry. No concrete highways, no motor trucks and busses, no wireless, no radio, no telephone system, no aviation, no movies, no electrical appliances, no elevators, no subways; and the word 'automatic' has still to be looked up in a dictionary, for the machine is not yet an automation. It is but a tireless, mindless extension of the human members, still in its first character, only gigantically magnified."

Coming down to the present time, he notes that "to man's daring with machines has been added the cunning of science", and he notes further that "An eminent English scientist is saying: 'Let us declare a science holiday, until the world can catch up.' Echo of the Swiss economist, Sismondi, who (some 100 years ago) before railroads and steamships, was saying: 'Let inventions cease, at least for a while.'" (P. 14.)

*Scientific management as a cause of economic change.*—As bearing on the importance of scientific management, the following excerpts may be quoted from the Report of the Committee on Technological Employment to the Secretary of Labor (Appendix to Hearings Before Select Committee on Unemployment Insurance, 1931).

An increased output per worker, may, to illustrate, result from the exercise of managerial skill or finesse in such matters affecting production as the selection of workers; the organization, direction, supervision, and instruction of workers; the use of piecework and bonus systems of pay; the betterment of working conditions; and the improvement of the morale of workers.

This increased unit production on the part of groups of workers usually reduces the number needed to produce the goods required to meet the market demand. In this way, the efficient management of personnel, which may be beneficial to the workers retained, also tends to cause unemployment for others. As we shall see later, there is another phase of management which may be called technological management of the physical side of production and which causes the technological changes that result in the displacement of workers (pp. 562-563).

All technological change in mechanisms, processes, and physical methods are themselves also the result of the decisions and acts of management. To illustrate, somebody must decide whether a new machine shall be introduced, or a different material be used, or a change be made in methods of production.

Technological change, therefore, is that part or result of management which involves physical change or improvement in methods of doing jobs. Similarly, technological displacement is the displacement which results from improved management on what may be called its physical side.

Management must also deal, however, with the human or personnel side of production. The better selection of men for jobs, the better training of workers, better working conditions, and the maintenance and improvement of morale—all such decisions and acts constitute the exercise of improved management on the human side of production. This may also cause an increase in the output per man-hour and thus lead to a reduction in the number of workers employed—a reduction which would not be due to technological change, but to improved methods of conserving and handling the working force.

It would appear, therefore, that management has two distinct phases in its effect upon production, one of which may be called technological management and the other personnel management. \* \* \* Technological management is the moving cause of all technological change and therefore plays a part in all technological displacement. On the other hand personnel management is one cause of change in the personal efficiency of workers, and, to a relatively less degree, of displacement (p. 564).

At the same time that these technological changes are in progress management, let us say, is improving itself on the human side also. As a result the personal efficiency and morale of the working force is so improved that the average output per worker is greatly increased and the opportunities of employment correspondingly decreased.

In the Summary of Recent Economic Changes in the United States (An Audit of America, by Edward Eyre Hunt, 1930), it is noted that: "Scientific management in industry and commerce called forth to meet the problem of correlating abundant resources, high-priced labor, and unsurpassed machine

equipment to serve the greatest of markets, is thought by many observers to be our chief contribution to economic progress" (p. 2).

(P. 14.)

<sup>7</sup> *How scientific management uses technological change.*—See Report of the Committee on Technological Employment to the Secretary of Labor, 1931 (Appendix to Hearings Before a Select Committee on Unemployment Insurance, U. S. Senate, 72d Cong., pp. 564-566). See also *Vocational Education in a Democracy*, by Prosser and Allen, p. 186.

(P. 14.)

<sup>8</sup> *Technological progress continually changes the character of jobs and occupations.*—See *Vocational Education in a Democracy*, Prosser and Allen, pp. 22-23.

(P. 15.)

<sup>9</sup> *Corresponding changes in skill and knowledge resulting from discovery and invention.*—See *Vocational Education in a Democracy*, Prosser and Allen, pp. 23-25.

(P. 15.)

<sup>10</sup> *The need for greater resourcefulness.*—"The sweeping change in the demands of modern production has brought with it the need on the part of the worker for both quicker adaptation to a job or process and for what might be called constant readaptation to the demands of new jobs." (*Vocational Education in a Democracy*, Prosser and Allen, p. 24.) See also pp. 23, 25, and 80. The process of mechanization in many fields of employment necessarily means that the worker must know more—do less physically—but produce more with the aid of the machine.

(P. 15.)

<sup>11</sup> *Outstanding characteristic of all occupations is their changing character.*—For a chart listing 45 changing conditions and corresponding problems, developing in vocational education, see *Vocational Education in a Democracy*, Prosser and Allen, pp. 29-31.

(P. 15.)

<sup>12</sup> *Shifts in comparative importance of fields of employment.*—Census returns show that in the 2 decades from 1910 to 1930, the number engaged in agriculture decreased, in round numbers, from 12,400,000 to 10,500,000, while the number engaged in manufacturing and mechanical industries increased from 10,700,000 to 14,100,000. In the same period, the number employed in commercial occupations (selling and clerical workers, and clerks in stores) more than doubled, increasing from 3,200,000 in 1910 to 6,700,000 in 1930.

During the 2 decades, 1910 to 1930, ratios of increase for different broad fields of employment were as shown in the following table giving the ratio of the number in each group in 1930, according to the census, to the number in the group in 1910. It is shown for example, that the number in clerical occupations in 1930 was 2.34 times the number in 1910:

	Ratio
Clerical occupations.....	2.34
Public service.....	1.99
Professional service.....	1.91
Trade, commerce.....	1.67
Transportation and communication.....	1.44
Population 10 years of age and over.....	1.37
Manufacturing and mechanical.....	1.32
Domestic and personal service.....	1.32
Extraction of minerals.....	1.02
Agriculture.....	.85

(P. 16.)

<sup>12</sup> *Increase in output per man-hour.*—A very extensive survey of some 15,000 industrial plants producing some 161 different products, during the period approximately from 1911 to 1931 shows that increase of output per man-hour has been practically universal and exceedingly rapid. (See study made by the American Engineering Council, "Safety and Production—An Engineering and Statistical Study of the Relationship between Industrial Safety and Production", and a subsequent study made by L. P. Alford and J. E. Hannun, October 18, 1932.) (P. 16.)

<sup>14</sup> *The fundamental basis of skill and knowledge* in the past was tradition and custom. For centuries, to illustrate, the craftsmen of the Middle Ages used the same tools and the same materials to produce over and over again the same designs of furniture as their ancestors. In those simpler ages, occupations were few in number, general in character and standardized. Tools and appliances were simple and uniform and changes in them few and slow. Old skills were retained and perpetuated and old technical knowledge, of which there was but little, was preserved and revered. New skills were seldom called for and new technical knowledge was infrequently or slowly discovered and applied.

All skill and knowledge was simple and changes in them were very few and very slow. The amount of knowledge needed by the workman was little in variety and degree. As a result the changes in the demands of his occupation during his lifetime were almost negligible. He must, of course, be adapted to his job, but only once and there was little or no necessity of readapting him. Once learned, the skill and knowledge the worker used usually lasted him a lifetime. This was true of workers in all occupations from the craftsman and clerk to the farmer and the home maker. (P. 17.)

<sup>15</sup> *Increasing diversity of tools and equipment.*—A recent catalog of "The Shop Equipment Associates" lists 500 specific pieces of equipment, which, as a group, these associates market for use in the maintenance and repair of auto cars. Many of these are indispensable in the shop, and many are new devices of the last 5 years. Others are improvements on old devices. The worker must learn to use these devices, and the difficulty of learning to do what he is required to do increases roughly in proportion as the number of tools, machines, and devices in the shop increases. Very commonly, the automobile mechanic must be an all-round mechanic—a combination tire man, battery man, ignition man, and welder, and all the tools and equipment in these several lines are continuously being modified. An equally amazing diversification of shop equipment is found in all branches of the electrical trades (see "Developments in the Electrical Industry", published by the General Electric Co.) and, it may be added, throughout all industries.

Changes effected by the introduction of new devices in the offices and accounting departments of business concerns, for example, in recent years have revolutionized clerical work. "Machines have invaded every corner of the office. In addition to the common typewriter and mathematical machines, many new mechanical devices are being invented each year and put on the market." (Grace L. Coyle, *Permanent Trends in Clerical Occupations*, Woman's Press, 1928, p. 17.) Among these may be mentioned billing machines, photostat machines, addressing machines, stamp-fixing machines, and dictaphones. The U.S. Census Bureau finds it necessary from decade to decade to modify its list

of job names used in reporting occupations, adding new and dropping old names. These changes reflect largely changes in tools and equipment.

(P. 17.)

<sup>16</sup> *The increasing demand for headwork rather than hand work.*—The technical knowledge necessary to an understanding of the work of any job is not only constantly changing, but varies greatly according to the level of the job. Agricultural research by trained experts has developed a great body of exceedingly technical knowledge about all the major problems of farming. Only some research experts and highly trained agricultural engineers and instructors can understand and use this knowledge in the language and in the form employed by these specialists. From it must be selected the usable facts which the farmer should know, and which must be restated in simple non-technical language he can readily understand. This gives us at least two bodies of technical knowledge about any matter in agriculture—the one which is employed by the expert technician, and the other which the farmer must be able to work down into his plough handle. On either level, this technical knowledge calls for more headwork, and, in the case of the farmer at least, less physical toil.

In all fields of occupations, a changing body of functioning information is constantly being developed and used on different levels by workers employed on different jobs. As used by the research experts and engineers in any field, this body of knowledge tends to be comprehensive in scope and technical in its language. As used by the mechanic, or the miner, or the railroad man, or the clerk, or the farmer, this body of knowledge about any matter needs to be directed at the real needs of the worker. It should, therefore, be selected, direct, practical and simple in its language. Its mastery always calls for more headwork, and its application usually calls for less physical exertion.

(P. 18.)

<sup>17</sup> *The machine and the cigar.*—In place of the hand cigarmaker with his marvelous quickness and dexterity in the making of cigars by hand we now have a machine that does all the work. For every machine there is a girl inspector who keeps close watch on its performance, the quality or quantity of the output, and the condition of the device. For every 4 of these machines 1 high-grade workman is necessary to service them, make prompt repairs, and keep them in top-notch working order. On him the attendant calls when any trouble arises in the process. Neither attendant nor technician handles the raw material or the finished cigar. The electronic tube is even employed to sort the cigars by color of wrapper as they roll out of the machine. And neither attendants nor technicians have had or need to have had any experience as hand cigarmakers.

(P. 21.)

<sup>18</sup> *The case of the weaver.*—The first commercial weaving of textiles was done by a paid weaver on a hand loom which remained almost unchanged in its mechanical operation for centuries. When the age of steam introduced the power-driven loom, mechanical ingenuity seemed to concentrate much of its efforts on that machine. Countless inventions led to continual improvements, each of which substituted some new achievement of the machine for some old manipulative skill of the weaver. In this way the range of motions performed by the weaver was steadily reduced while the range of things in the weaving process performed by the machine correspondingly increased.

As the number of duties of the weaver in the weaving process of the loom steadily decreased, he was able steadily to increase the number of looms he tended. This increase in number of looms he could tend increased to the point where only one of his ancient duties remained—that was to tie the thread when it broke in the loom so as to avoid seconds (damage) in the cloth. Now a device is being installed which ties the broken thread automatically. When this device has been fully installed, the occupation of the weaver will in time disappear as a pay roll job. This evolution or devolution, as you will, of the weaver's occupation is a striking example of the way in which labor-saving devices tend to wipe out those mechanical occupations which are so manipulative in character that they make little real demand on the technological knowledge of the worker.

(P. 21.)

<sup>19</sup> *The case of the hydroelectric station man* illustrates just the opposite results upon an occupation of technological improvement. It is a far cry from Faraday's crude dynamo that furnished the current for an electric lamp in a lighthouse on the English Channel to the marvelous equipment of a modern hydroelectric station. In the intervening century hundreds of men have discovered principles and contributed inventions evidenced by hundreds of minor patents which have perfected the electric generator of today. To operate it intelligently a certain very small body of skill is necessary, let us say, but a very considerable body of changing technical knowledge. Hours on end the operator of the hydroelectric station does nothing except possibly to oil up turbine and generator and listen to the hum of the latter as the indicator of its condition. He is paid for what he knows as a stand-by man with three duties—the prompt detection of trouble; the accurate diagnosis of the real cause; and the accurate application of the right remedy.

Frequent improvement in the equipment of his station increases the value of the mechanism for which he is responsible. New discoveries and principles which apply to his work continuously increase or change the technical knowledge he needs for his task. Because his is fundamentally a technical and not a manipulative service, the advancement in electrical equipment and processes does not operate to abolish but to enlarge his job.

(P. 21.)

<sup>20</sup> *Necessary importance of being in good physical condition.*—"Health is required of all who work. Without health the best work is impossible. One sees at times unwell persons trying to work, but little is accomplished and there is no joy in it. Successful work, the best production of the individual, demands health \* \* \* to the wage-worker, health is vital." (*Industrial Hygiene for Schools.*—Williams and Aberteuffer, pp. 18-19.)

"Since (or because) one's production in work is dependent upon health, employers do not hire sick people." (*Ibid.* p. 20.) These authorities note that health is a factor, not only in doing one's work well, but also in securing a position, in holding a position, and in securing promotion to a better position.

(P. 25.)

<sup>21</sup> *Barriers set up in present-day employment practice* include a great variety of psychological tests, trade tests, clerical stenographic tests, requirement of references and introductions, medical examinations, and personal interviews. The individual who cannot make the pace under the scientific tests either will not be employed, or, if employed, will not be long retained in employment.

The applicant for a job very soon discovers that hiring labor has itself become, in many establishments, a highly specialized function.

Applying at one concern, he may be turned over to an employment expert or psychologist, and perhaps given a jig-saw puzzle to put together—the idea is that if he cannot put it together in 15 minutes, he is *not the kind of man wanted on the particular job*. At another concern, he may be required to assemble the parts of a door lock or some other simple mechanism—the test shows that he has *not the particular mechanical aptitude required* for the job.

At another place, it may be a question of schooling: Is he a high-school graduate? If not, he is out of luck, since it happens to be the policy of this concern to hire *high-school graduates only*. Or, he is required to produce a license—*no license, no job, by requirement of State law*. Or, it is a question of age—our man admits 40 years and informed that it is the policy of the concern not to hire anyone over 35, since *anyone over 35 is too old to learn*—an idea still prevalent, although it has been proved quite erroneous. Or, it may be a question of physical condition and general health—*only those who can measure up to certain physical and health standards are employable*; or habits—*does he smoke, or drink*; or of church affiliations; or race; or *past record in employment*; or *labor organization membership*.

The list might be indefinitely extended. It varies from employer to employer. The worker can never know precisely what he will be up against. A prospective employer asks him for a match and notices whether he shoots his hand immediately into the right pocket, or fumbles about in several pockets to find one—in one case, he is *systematic*; in the other case, not, and will not do.

In a word, procedures of "scientific" or more or less arbitrary personnel selection—precisely for the reason that they are scientific, or at least selective on some basis—tend to reduce the chances that the worker, seeking employment, will easily and quickly locate a job, for which he can be *demonstrated in advance to be specially qualified*.

In large plants, very commonly employment procedures are developed on the basis of detailed job analyses and specifications worked out for filing and reference in the employment departments. Psychological tests, also, for demonstration of so-called general intelligence, are used to some extent, the tendency being to take over and apply such scientific methods as research and experimentation in the field of applied psychology have shown to be of practical value.

When operations have been standardized on the basis of motion studies and production procedures, it has been found that many workers cannot qualify. In present personnel employment practice, however, more dependence, it would seem, is being placed on "man analyses" than upon "job analyses." (P. 32.)

<sup>22</sup> *Greater difficulty in securing employment at former age levels.*—Provisions as regards juvenile employment and compulsory school-attendance in State laws were summarized by the U.S. Children's Bureau in January 1934. (State Compulsory School Attendance Standards Affecting the Employment of Minors. State Child Labor Standards, 1934. Issued by the Office of Education, Department of the Interior.) While no brief summary can take full account of the variations in these provisions, the present situation appears to be roughly as follows: With exception of 1 State a minimum age as high as 14 years is designated for juvenile employment at least in factories, and over a range of other occupations varying from State to State—38 States and the District of Columbia designate 14 years, and 9 States a higher minimum of 15 or 16 years.

Thirty-eight States and the District provide an 8-hour day or 44- or 48-hour week for juveniles under 16. Forty-four States and the District prohibit night

work for those under 16. Farm work is very commonly excepted either expressly or by implication under State laws, although in a few States regulations extend at least in part to agriculture. Twenty-five States and the District require examination by a physician as a condition of issuing regular employment certificates, and in a number of other States, "the need for some legal provision in regard to juveniles' physical ability to work" is recognized.

School attendance up to 16 years is required in a majority of the States, the limits designated under varying provisions for exceptions being 14 years in 4 States, 15 in 1 State, 16 in 32 States and the District, 17 in 6 States, and 18 in 5 States.

It will be apparent that so far as provisions in State laws regarding child labor and compulsory school attendance are concerned, the situation continues today as in the past variable from State to State, but in the country as a whole as regards juvenile employment, the situation has changed radically under N.R.A. codes. These codes practically eliminate employment of juveniles under 16 over a wide range of occupations, and for some employments a more advanced minimum age limit has been designated.

While this overnight change under the codes has been in the nature of an emergency procedure, it seems improbable that the minimum age of employment the country over will ever be permitted to fall below 16 years as a general level. In this matter the code provisions may, it would seem, be accepted as setting up a new policy.

(P. 33.)

*"Decreasing employment of juveniles.*—Current reports of work-certificate issuing officers and factory inspectors all indicate that the number of working children, already much reduced according to the 1930 census, have still further declined roughly in proportion to the decline in general employment." (United States Children's Bureau, Summary of the Conclusions of the Conference on Present Day Labor Problems, December 10, 1932.)

In the decade, 1920-30, the number of messengers of all ages—to take 1 typical juvenile employment—decreased by 20 percent, but this decrease was entirely in the ages under 18. The number in the ages 18 to 19 increased by 121 percent. As a result of these changes, the proportion of messengers under 16 decreased from 43 percent in 1920 to 12 percent in 1930, while the proportion in the ages 18 to 19 increased from 9 to 23 percent.

Census returns show decreases in number employed under 18 years of age for practically all lines of commercial employments—the decrease for book-keepers and cashiers amounting to 66 percent for males and 47 percent for females; for clerks in stores, 33 and 51 percent respectively; for stenographers and typists, 67 and 44 percent; for messengers, 47 and 59 percent; for sales people, 3 and 14 percent; for laborers in stores, 43 and 29 percent.

Annual reports to the Federal Board for Vocational Education (Office of Education) show decreasing enrollments for part-time vocational classes. These decreases reflected generally the decrease in employment for young workers.

(P. 33.)

*"Employers do not want child workers.*—The White House Conference on Child Health and Protection in the report of its subcommittee on child labor notes that "employers are indicating that they do not want child workers under 16" (p. 5). "It is", the committee adds, "the minimum age recommended by physicians who have given special consideration to physical standards for children going to work, and who state that employment during earlier years of adolescence is detrimental to health and normal physical development, which are indispensable assets of the industrial worker" (p. 5). The committee advocates



a minimum age of 16 years for employment in any occupation, with certain exceptions.

(P. 33.)

<sup>25</sup> "*Age prejudice.*"—Age prejudice is recognized as setting up definite handicaps for the older job seekers. Studies of manufacturing industries in New York State by the State Commission on Old Age Security, for example, found that the older job seeker was definitely barred from 59 percent of available jobs, and was discriminated against in 89 percent of them.

(P. 33.)

<sup>26</sup> "*Obsolete men.*"—The December 1932 issue of *Fortune* undertakes "an examination of technological unemployment in the light of the machine that makes 500,000 needles a day, the machine that turns out 40,000 bricks an hour, and the machine that switches 1,000,000 freight cars a year", and many other machines. Among the items noted in this article are the following, given as compiled by engineers and economists of recognized standing:

That machinery developed in the single decade, 1914 to 1925, enabled 1 man employed in industry in 1925 to do the work of 3 men in 1914. That 6 or 8 men today control and operate a turbine capable of producing as much energy in 24 hours as 9,000,000 men working on 8-hour shifts. That the production of a motor car required, in 1929, less than one-third as many man-hours as in 1919. That 1 man operating a brickmaking machine sends 710 brickmakers into other jobs or out into the bread line. That 1 man operating a modern glass-tube-making machine deprives 600 skilled hand workmen of their places. That 1 man operating a new electric-light-bulb machine replaced 10,000 electric-light-bulb makers. That 1 man in 1930 could make as many needles in a day as 17,000 men in 1830. That a modern Minneapolis flour mill, under the control of 1 man, turns out as much flour in a day as 8,000 Themistocles' millers. That if the 1929 wheat crop had been grown in 1829, 6,000,000 men using the best 1829 equipment would have been required to prepare the ground for it, whereas 4,000 men, using the best 1929 equipment, could have done the whole job. That in 1 decade, 1920-30, 1 manufacturer (General Electric) created new machinery capable of producing 4 times as much man power (160,000,000) as the total wage-earning population of the United States.

Reviewing such figures as these, the article observes that "the basic relation of human labor to industrial production in America is apparently undergoing a change as profound as that which, in the early days of the Industrial Revolution, threatened the security and even the food and shelter of British labor."

(P. 34.)

<sup>27</sup> *The technological displacement of workers.*—The report of the Committee on Technological Employment to the Secretary of Labor, in 1931 (see Hearings Before a Select Committee on Unemployment Insurance, U.S. Senate, 72d Cong., pp. 605-6) comments as follows regarding the effects upon employment of the technological displacement of workers:

It has been very generally recognized that when technological displacement occurs because old jobs have disappeared, other and different kinds of jobs are also created. It has been pointed out that the inventing, designing, manufacturing, and maintenance of machines create jobs which may be regarded as "off-sets" for the jobs which the machine has wiped out. It has also been pointed out that as the result of technological change entirely new occupations often have been created which have in the past absorbed large numbers of workers. The extent to which these "off-set jobs" compare numerically with the jobs which have been wiped out is not known at the present time.

Whatever may be the truth about this matter, one tendency seems to be apparent, at the present time at least: The new jobs which are created in existing occupations through the introduction of mechanical devices and processes frequently call for higher degree of technical knowledge or what has been called

<sup>v</sup> "job intelligence", hence they tend to throw what has been called "the human contribution" onto the mental rather than onto the manual side of the occupation. The sole purpose of a labor-saving machine is to substitute mechanical for human power.

The machine does not and cannot tend itself. It cannot keep itself in repair. It cannot construct itself. There is therefore very little question that "off-set jobs" are usually jobs requiring a higher degree of such assets as intelligence, technical knowledge, ability to use that technical knowledge, inventiveness, and resourcefulness, than the more mechanical jobs which the machine has wiped out of existence.

(P. 34.)

<sup>28</sup> *Apprenticeship in foreign countries as a means of recruiting and educating labor.*—In the more important foreign countries, while apprenticeship requirements have been from time to time modified and adapted to changing conditions, the tradition of apprenticeship has survived as a real factor in training and educating labor. In transmitting a recent report on The Apprenticeship System in Germany (Voluntary Report No. 751, Berlin, February 1933) our Consul General at Berlin makes the following statement:

In Germany, notwithstanding the comparatively huge number of unemployed, the system of providing for regulated apprenticeships appears to have been currently successful even during the present depression. It is known that the number of minors who finished the common schools last year at the age of approximately 14, were successfully placed in proper apprenticeship occupations during the year.

This year (1933) at Easter, for example, the city of Berlin is confronted by the problem of placing 5,000 college graduates, 10,000 children graduating from the common schools and about 4,500 graduates of other schools. The local employment agencies which are federal organizations will exert their entire machinery throughout the country to bring these persons into situations where they can at least learn to make their living. The successful solution of this problem to a very large degree would be impossible without the well-regulated system of apprenticeship which is described in this report.

The report points out that "the foundation of German industry is its stock of highly trained mechanics and skilled laborers", provided under an apprenticeship system which is "a continuation of the age-old system instituted by the handcraft guilds"; that this supply of skilled labor "has probably been the chief reason for Germany's industrial supremacy in certain lines"; that "the training of apprentices is considered not only an economic necessity, but also a social duty toward the youth of the nation"; and that "it is the desire of German industry and labor generally to regulate by legislation the practical professional training of all juveniles between 14 and 18."

In France, apprentices are indentured under national legislation defining the responsibilities of the master, the apprentice, and the parent or guardian, and setting up local representative agencies for enforcement of the articles. Apprenticeship is more or less a matter of national legislation in other countries, also. (See Vocational Education Bulletin No. 176 entitled Apprenticeship in England, France, and Germany, Office of Education.)

(P. 35.)

<sup>29</sup> *Breaking down the machinist trade into specialties.*—How far this breaking up of old unit trades and occupations has already been carried is well shown by the case of the machinist. In the beginning all machinists were easily classified under that one simple label. In its occupational index for the last census the U.S. Census Bureau recognized 142 different designations of machinists.

If there were a thousand types of machinists and you were specialist no. 36 in that line of work, your special skill and knowledge would operate to keep you employed, if for no other reason because it would require some time and trouble to train another man to do what you have specialized in doing. Once you lost that special job your mathematical chances of reemployment in the business would tend to be narrowed to specialist job no. 36. If another job no. 36 were available somewhere your chances, unless you were "too old", of securing reemployment would be good. But your chances would be slight of securing any other kind of specialty job and less still of obtaining employment as an "all round machinist."

There is, however, little evidence to justify the assumption that the day of the skilled artisan—of the broadly and thoroughly trained machinist, carpenter, mason, printer, or electrician is passing—that he is being supplanted by the machine, which requires of the worker a minimum of experience and training.

It is true that the number of workers classified by the Census as "machinists", for example, fell off in the decade, 1920-30—from 802,000 to 640,000, or by 162,000—but the significance of this decrease cannot be determined without taking into account other occupational shifts shown by these same returns. In the same period, the number of tool-makers and die setters and sinkers *increased* from 55,000 to 79,000, and the number of "mechanics" in automobile factories, garages, and repair shops, in air transportation, and in other industries *increased* to 638,000.

*Increases* over this period are shown for many skilled labor groups, such as electricians, engravers, stationary engineers, painters, paper hangers, pattern and model makers, plasterers, plumbers and pipe fitters, pressmen and plate printers, sawyers, structural ironworkers, steel metalworkers, upholsterers, chauffeurs and truck and tractor drivers (from 285,000 to 972,000), architects, chemists, designers, draftsmen, and technical engineers (civil, electrical, mechanical, and mining).

(P. 36.)

<sup>20</sup> *The persistence of skilled trades.*—The census returns for the 20-year period from 1910 to 1930 furnish some very significant figures regarding occupations that may be classified as skilled trades. Of such occupations a large proportion show no loss in numbers during the 2 decades, others show a growth equal to population growth, and still others a gain over population growth.

(P. 38.)

<sup>21</sup> *The need for technicians.*—In a study of Technical Institutes made by the Society for the Promotion of Engineering Education in 1931, it was estimated that for manufacturing establishments in textiles and their products, machines, iron and steel and their products, transportation equipment, and chemical and allied products, in which a total of almost 10,000,000 workers was employed, a total of almost 600,000 technical institute graduates should be utilized. Only 10,000 of such graduates were at the time employed in these lines of work as contrasted with a real annual requirement of more than 17,000.

(P. 38.)

<sup>22</sup> *Increase in size of farms.*—In the decade 1920 to 1930, the number of farms fell off 2.5 percent, and the number of acres in farms increased by 3.2 percent. Farms of less than 500 acres decreased both in number (by 2.9 percent) and in total acreage (by 5.1 percent); while farms of 500 acres and over increased both in number (by 10.6 percent), and in total acreage (by 19.7 percent). Acreage in large farms (500 acres and over) increased during this decade by 63,500,000 acres (in round numbers from 321,600,000 acres to 385,100,000 acres), while acreage in smaller farms decreased by 32,800,000 acres (from 624,200,000

to 601,600,000). The number of large farms has been increasing very rapidly in recent decades.

(P. 46.)

<sup>32</sup> *Larger yields versus greater acreage.*—"From about 1880 to 1910, the amount of land under cultivation increased steadily, though scarcely as rapidly as the population of the country but since that time increase in production has been more through larger yields than through the planting of greater areas. Although adequate statistics of the long time increase in output of animal products are lacking, there is reason to believe that it has been faster than that of crops." (Commerce Year Book, 1932, p. 131.)

(P. 46.)

<sup>34</sup> *Farming as a way of living must produce something for sale* in order to pay for fixed charges and such extras as the farmer needs in the way of education, recreation, and medication. Farming as a way of living, means production of farm products, primarily for home living. Surpluses represent, therefore, the material that is usually sold. The new knowledge that this type of farmer must develop is the knowledge that deals with processing and preparing for market as well as the knowledge needed in actually marketing the product itself. For the competitive farmer, the one who produces large quantities of specialized crops, this problem is simply that of keeping up-to-date with the new problems involved with these crops.

(P. 47.)

<sup>35</sup> *Mechanization of farm operations.*—Mechanization of agriculture has been proceeding at an increasingly rapid pace in recent years—to the point where it may fairly be said that farming today has become, to a very considerable extent, a machine industry, and the farmer a machine operator. The broad outlines of this increasing mechanization can be plotted from a few significant statistical totals and averages. Total horsepower available on farms increased from decade to decade from 9,379,000 horsepower in 1870 to over 70,000,000 in 1930. In 1870, all power was animal—no mechanical power being reported for farms. In 1930, 53,000,000, (or 75.6 percent of the 70,000,000 horsepower on farms) was mechanical. In the decade ending in 1930, animal power decreased by 4,000,000 and mechanical power increased by 37,000,000 horsepower, or by 230 percent.

The value of implements and machinery on farms increased from \$271,000,000 in 1870 to \$3,302,000,000 in 1930. The average value per farm of implements and machinery increased in this period from \$102 to \$525. The average value per worker on farms increased from \$46 to \$315. The value of horses and mules increased from \$583,000,000 in 1870 to \$2,728,000,000 in 1920, and fell off to \$1,349,000,000 in 1930. (For detail of estimates by class of power—oxen, mules, horses, windmills, steam engines, gas engines, electricity, gas tractors, trucks, harvester-threshers—for each census year, 1850 to 1930, see Miscellaneous Publication 157, U.S. Department of Agriculture, p. 12, 1933; and for values, *Ibid.*, p. 8.)

It has been estimated that American Agriculture in 1931 was using in the neighborhood of 20,000,000,000 horsepower hours of primary power annually.

The 1932 Year Book of the Department of Agriculture reported approximately 1,000,000 farms using electricity.

(P. 48.)

<sup>36</sup> *What diversification requires.*—It includes new knowledge regarding new crops that should be grown, general business methods in use of labor and capital, and modification of extreme commercialized farming to more of a sustained

type. The specialized farmer who decides to diversify more must therefore enlarge and enrich his knowledge of agricultural products and their production and deduct from an enormous quantity of source material that which applies to his particular farm situation.

(P. 50.)

<sup>37</sup> *The farmer's decreasing purchasing power.*—If we were to consider all the farmers of America as one farmer and all the farms as his farm, on the average anything from the farm which he sold at a price of \$1 in 1928, brought in 1920 a price of \$1.47; in 1924 a price of 96 cents; and in 1931 only 58 cents. For every hundred dollars obtained from the sale of farm products in 1928, he received \$104.40 in 1924; \$51 in 1931; and only \$34.80 in 1932. Although the annual total or mass production of his crops increased more than 5 percent in 1931 over 1921–25, the comparative annual income in dollars of John Farmer shrank more than 60 percent. For every dollar of farm income in 1928 he received less than 45 cents 3 years later while the relative purchasing power of his total or average income dropped more than 44 percent in the 8-year period from 1924 to 1931, inclusive.

(P. 50.)

<sup>38</sup> *Some economic factors in the farm situation.*—It has been estimated that the farmer's share in the gross national income fell off from 16.6 percent in 1910 to perhaps 7 percent in 1930 and 1931. Net farm income—that is to say, the excess of the farmer's income over what he had to pay out for rent, interest, taxes, wages to hired labor, and other farm operating costs—has been dropping in recent years even more rapidly than gross returns. It fell off from \$5,579,000,000 in 1929 to \$1,291,000,000 in 1932—the decline in these 3 short years of over \$4,000,000,000 amounting to 77 percent.

The basic facts in the changing agricultural situation during the 5 years, 1928–32, are summarized in the following table:

*Farm income: 1928–31*

Year	Gross income	Net income	Index of purchasing power of farm products 1928=100
1932.....	\$5,143,000,000	\$1,291,000,000	34.8
1931.....	6,920,000,000	2,440,000,000	51.0
1930.....	9,347,000,000	3,750,000,000	71.2
1929.....	11,911,000,000	5,579,000,000	102.7
1928.....	11,741,000,000	5,463,000,000	100.0

(P. 50.)

<sup>39</sup> *Rural and urban tides.*—How formidable these annual shifting tides of people have been is shown by the figures for the past 13 years. During that period the annual number of persons leaving farms for cities has ranged from about 900,000 in 1920, as the lowest, to more than 2,300,000 in 1928, as the highest. On the other hand, the drift from the city to the farm ranged from about 600,000 in 1920, as the lowest, to more than 1,700,000 in 1930, as the highest. During the 10-year period from 1920 to 1929, inclusive, there was a net movement of more than 6,000,000 from farms to cities. For the past 3 years, a reversal of the earlier trend has resulted in a net movement of 564,000 persons from the cities to the farms.

It is very important to bear in mind that for vocational education, the large fact in these population shiftings cityward and farmward is the volume of population displacement—the sum of the outflow plus the inflow, rather than any net change. The *excess* of the farmward over the cityward movement in any year, or as the case may be of the cityward over the farmward movement, is only a net balance which is in no respect whatever a measure of the volume of displacement. The newcomer in the country presents a problem of occupational adjustment independently of the number of old residents who may recently have moved to the city—and these farm workers who move to the city will necessarily present problems of occupational adjustment to the city.

(P. 53.)

*"Lost years of the shifting farmer.*—In the shifting between rural and urban communities, the individual suffers a great handicap, who has gone from rural to urban life and then back again to rural. If he returns to the same farm after 10 years of absence he is 10 years behind in his skill and knowledge. This has to be made up before he can be classified as a successful competitive farmer. However, in many cases his move back to the rural section has been to a different locality from the one from which he emigrated to the city or urban district. He is essentially a new farmer who must acquire all of the knowledges and skills of his new situation.

(P. 53.)

*"4-H Clubs and the F.F.A.*—Boys and girls in the ages from 10 to 20 years are eligible for membership in 4-H clubs. As members they "pledge themselves to carry out a farm or home enterprise using the best practices developed by the State agricultural colleges and the U.S. Department of Agriculture." Through projects carried out under the supervision of State, county, and Federal extension agents, members undertake "to teach themselves, their friends, and their neighbors by actual demonstrations" the value of improved practices on the farm and in the farm home. (Boys and Girls 4-H Club Work under the Smith-Lever Act, 1914-24. U.S. Department of Agriculture, Misc. Circular No. 85.) The Secretary of Agriculture notes in his 1932 annual report that these clubs have helped in "efforts to augment and conserve farm incomes" under live-at-home programs. In 1930 some 85,000 local club leaders were enlisted in the movement. Over 60,000 clubs were in operation in 1931, with an enrollment of 360,653 boys and 529,721 girls. In this year some 1,033,000 "projects" were undertaken. (Yearbook of the Department of Agriculture for 1933, p. 776.)

The Future Farmers of America is a national organization of farm boys, generally in the ages 14 to 18, studying vocational agriculture in public schools. State associations under various names initiated the national organization in 1928. There are 49 State, Territorial, and insular associations with approximately 3,600 local chapters and a membership of about 90,000. The primary purpose of the F.F.A. is to supplement the instruction provided in high-school departments of vocational agriculture established under the National Vocational Education Acts, and major activities of the F.F.A. programs constitute an inherent part of the public school vocational agriculture program. It is during the period of 2 to 4 years in which the boy is taking vocational agriculture in the high school that he is eligible to join his local chapter, and to advance through the "Green Hand", "Future Farmer", and "State Farmer" degrees. He is eligible to be made an "American Farmer" at a regular national convention of the organization. Advancement through the several degrees is based upon progressively higher standards of achievement. The F.F.A. is strictly

a farm-boy organization officered throughout by farm boys. As a general rule, the teacher of vocational agriculture serves as adviser to the chapter. The State supervisor for agricultural education serves as adviser to the State association, and the chief of the agricultural education service, U.S. Office of Education, as adviser to the national organization.  
(P. 55.)

<sup>42</sup> *Need for additional departments of vocational agriculture in high schools.*—Vocational agriculture is now included in the programs of approximately 40 percent of the rural high schools in the United States. It is estimated that about 14 percent of the farm boys in school between the ages of 14 and 20 are being reached by these vocational programs. A survey of high schools in 7 Southern States to determine the need for establishment of vocational agriculture departments in these States found that departments already established constituted about 57 percent of the number needed. Other regions would, it is believed, show an even lower percentage for rural schools providing this instruction in comparison with the total number operating under conditions indicating a need for such instruction.  
(Page 57.)

<sup>43</sup> *The decreasing proportion of Federal and State aid for schools.*—As one contributing factor of embarrassment to the rural community, it may be noted that the proportion of State and Federal funds in the total of all funds provided out of public revenues for our schools has declined during the past 20 years, although some States—as is true of Maryland, North Carolina, Delaware, and New York—are today paying a large share of total schools costs. (See State Support for Public Education. Report of the National Survey of School Finance, American Council on Education, Washington, D.C., 1933, p. 26.) This means that taking the country over, our schools are today, as compared with 20 years ago, *more dependent upon local resources*, and that in many sections of the country the burden of supporting the schools is less equitably apportioned today on any basis, whether of need or of financial capacity to pay.  
(P. 58.)

<sup>44</sup> *Output of electrical household appliances.*—Taking net per capita output of electrical household appliances in 1925 as 100, the output of such appliances increased from 1921 to 1929 in the ratio of 39 to 128 (Recent Social Trends, vol. 2, p. 899).  
(P. 61.)

<sup>45</sup> *The divorce record.*—In 1930 the number of divorces reached a top level of 72 per 10,000 of our population. On the average, this represented the breaking up of 7,200 families annually in any city of a million people and, in continental United States, of almost 9,000,000 families in a decade. As the number of divorces and legal separations is increasing at a rapid rate annually, the situation seems certain to get worse before it gets better.  
(P. 63.)

<sup>46</sup> *Affection, the new basis of the family.*—"Formerly, when the family was a business partnership, affection may never have existed, or it may have been turned into hate or irritation or suffering between husband and wife. Yet with affection gone a family group had to continue because of the economic bonds and other ties. The task of those who would solve family problems and who would direct the course of evolution of the family toward better channels is to discover as much as possible about the science and art of affection for parents.

and children as well as husbands and wives to disseminate these discoveries as widely as possible." (W. F. Ogburn, *What's Happening to the American Family*, Children's Magazine, December 1927.)

(P. 63.)

*"Trend toward multifamily dwellings.*—A recent study of 14 cities of 500,000 population showed the change from 1921 to 1929 to be a decrease in one-family dwellings from 44.2 to 25.2 percent; a decrease in two-family dwellings from 21.7 to 10.3 percent; and an increase in apartments and tenements from 34.8 to 64.4 percent.

Similar tendencies were revealed by a survey of 257 cities of 25,000 or more population. In the period from 1921 to 1929, the proportion of families living in one-family dwellings had decreased from 58 to 40 percent, and the proportion living in two-family dwellings, from 17 to 11 percent, while the proportion living in dwellings accommodating three or more families had more than doubled, increasing from 24 to 49 percent. (U.S. Bureau of Labor Statistics, *Monthly Labor Review*, June 1930, p. 158.)

(P. 64.)

*"Urbanization of the home.*—At each census, it is found that more homes have, during the preceding decade, been brought within the limits of our expanding urban areas. Nearly two-thirds of the population in 1930 were living in incorporated places, large and small, the proportion living in such places having increased from 55 percent in 1910 to 64 percent in 1930. One in eight of the population in 1930 were living in cities of 1,000,000 or more inhabitants, and 1 in 3 in cities of 50,000 or more.

Urbanization is, however, not entirely—perhaps not principally a matter of location of the home within city limits. It is rather a matter of bringing the home, wherever it may be located, within what may be called the sphere of social and economic urban influences. In this aspect of it, urbanization has meant extension of these influences into territory technically defined as rural, as well as incorporation of rural areas within urban districts.

It is estimated that fully one-half of our population are living today within 1 hour's motor ride of one of the 93 cities of the country of 100,000 or more population, and that three-quarters of the increase in population during the decade 1920-30 was within the immediate orbits of these large cities (*Recent Social Trends*, p. 492). Under present conditions, a home 10 miles out in the country may be much more urban than rural in character—doing the marketing in the city, seeking its recreation in the city, and earning its living in the city. Moreover, the city influence is brought out into the home over the radio and telephone, and by newspaper and magazine.

Few homes in the country, however remote from the city they may be located, are entirely unaffected by urban influences.

Finally, within each urban community itself also, as it has increased in population, wealth, and facilities, there has been a progressive intensification of those characteristics which distinguish the urban community from the open country.

Practically all homes are being in some measure urbanized, which means that they are being exposed to an environment which, as has been pointed out, is, as compared with the rural community, more artificial, unstable, noisy, and congested, in which contacts are more numerous, impersonal, and casual. Groves and Ogburn observe (*American Marriage and Family Relationships*,



p. 19) that "the urbanization of life strips the family of much of its old-time function, and at the same time, increases the demand that is thrust upon it as a means of obtaining satisfactions."

(P. 64.)

"*Buying a living.*"—Expenditures of homemakers in "buying a living" run well up into the billions annually—in fairly normal times amounting to perhaps \$30,000,000,000—and they have been increasing rapidly in recent years.

A few significant items in this account may be noted. United States census returns show that the value of output of canned and preserved products, as reported by the producer—and in large part, it may safely be assumed, purchased by the home maker for the family—increased from 1909 to 1929 by \$674,000,000; the value of bakery goods increased in this period by \$1,129,000,000. In the decade 1919 to 1929, the per capita production of vegetables, fruits, and soups, canned outside the home approximately doubled (Recent Social Trends, p. 665. See, as a whole, especially chapters XIII, XVII, XVIII, XXI, XXIII, and XXIV of this study from which many items such as are noted here by way of illustration, might be quoted.)

The value of women's clothing manufactured increased from \$385,000,000 in 1919 to \$1,710,000,000 in 1929; of knit goods products from \$200,000,000 to \$900,000,000.

We are told that from 1913 to 1928 the number of homes wired for electric light and power increased approximately from 48 to 200 per 1,000 nonfarm population (Recent Economic Changes, p. 67).

As bearing on electrification of farm homes (which, of course, is a necessary condition of buying and using of electrical household appliances in these homes) it may be noted that the United States Department of Agriculture Year Book for 1932 (p. 449) reports approximately 1,000,000 farms using electricity. Taking the combined output of electrical household appliances of all kinds, it appears that output per capita more than tripled from 1921 to 1929 (Recent Social Trends, p. 899).

In the field of buying services, such items as the following may be noted: Expenditures for work done in power laundries increased 110 percent from 1919 to 1929; the number of workers in the cleaning and dyeing industry increased 220 percent (Recent Social Trends, pp. 605-6). The number of beds in hospitals increased 115 percent from 1909 to 1929; of medical and dental clinics from 100 in 1900 to 6,000 in 1930, and the annual number of visits had risen by 1930 to 30,000,000 (Ibid., pp. 672, 1071). Annual expenditures for recreation have been estimated to amount to some \$10,000,000,000 (Ibid., p. 949).

(P. 67.)

"*Sales pressure on buyers for the family.*"—The home maker, in spending her thirty-odd billions a year, has been exposed to sales pressures from various sources, which have become increasingly intense in recent years.

It is recognized that a large portion of the demand for prepared foods, clothing, and household equipment is a "made" rather than a "natural" demand—made by house-to-house canvassing, organized selling campaigns, and advertising. "It would be a liberal estimate to say that only 25 percent of the business transacted in this country each day is done as a result of a 'natural demand.' The other 75 percent is done as a result of salesmanship—and it is on the 75 percent that we make our living and you make yours." (Quoted by Chase and Schlink from a circular sent out to its clients by an advertising

agency, "Your Money's Worth," p. 13. The authors doubt the accuracy of these percentages, but do not doubt "that a staggering total of the nation's purchasing power is so controlled, and that the percentage grows larger day by day.")

In 20 years, 1909 to 1929, expenditures for periodical advertising, according to the census, increased from \$54,000,000 to \$320,000,000; for newspaper advertising from \$149,000,000 to \$792,000,000. Adding in expenditures for other types of advertising, a grand total of some \$1,782,000,000, or \$15 per capita has been figured out for 1929 (Recent Social Trends, pp. 871-872).

This vast sum is expended to stimulate consumer consumption, rather than to provide economical expenditure of the family income. As bearing on possible economies that might be effected by intelligent informed buying, the following quotation from Chase and Schlink (Your Money's Worth, p. 65) is pertinent: "A scientist long on the staff of the Bureau of Standards estimates that a saving of at least a billion dollars a year would follow the release of the information secured by testing and research annually in this organization to the public at large."

In brief, it appears that something over a billion and a half of dollars is expended in the community each year (i.e. for advertising) *not by the consumer*—in the present instance the housewife—to test out values of products, and help her make intelligent selection, but by producers and distributors to exert sales pressure and stimulate consumer demand. The pressures originating in response to this expenditure have been fairly described as "shattering" in their effect upon the consumer's resistance. (P. 68.)

<sup>21</sup> *The noisiness of city life.*—One general characteristic of urban environment, frequently overlooked, but of serious import for the family which must live in the city, may be noted by way of illustration—its noisiness. The noise abatement commission, appointed by the New York Commissioner of Health in 1930 summarized the effects of noise in the city briefly as follows: (1) That hearing is apt to be impaired by constant exposure to loud noises; (2) that noise interferes seriously with the efficiency of the worker; (3) that the effort to overcome the effect of noise puts a great strain upon the nervous system, leading to pathological conditions; (4) that noise interferes seriously with sleep; and (5) that constant loud noises tend to prevent the normal development of infants and young children. (P. 60.)

<sup>22</sup> *Safeguarding the health of the family.*—It goes without saying that the home maker has played an exceedingly important part in making the discoveries of medical science in recent years effective in the home. To her must be given a large share of credit for such achievements as are registered in the reduction of infant mortality rates, and in the reduction of death rates for such children's diseases as diphtheria, measles, scarlet fever, typhoid, and whooping cough. By consistent cooperative effort, in which agencies of vocational training in home making must participate in the future, as in the past, these rates can undoubtedly be further reduced, and the health of the family be progressively more effectively safeguarded.

That women in the home appreciate the need for aid to help them become more efficient in this branch of home making may be inferred from the increase in enrollments in adult classes dealing with subjects closely involving the health of the family. In eight States, enrollments in health and home-nursing classes, operated under the Vocational Education Act, for example, increased

from 40 in 1922 to 3,226 in 1932, and enrollments in classes dealing with foods and nutrition increased in this period from 591 to 7,808.

(P. 71.)

<sup>53</sup> *Increasing facilities for recreation.*—How extensive the use of these facilities must be is shown by the figures for 1930; 100,000,000 people a week attended the movies. More than a total of \$2,000,000,000 had been invested in public parks and more than three-fourths of a billion in golf courses and club houses. In the previous decade, record-breaking crowds attended every form of competitive sport, while the makers of hunting and fishing supplies reported the largest sales in their history. Both men and women have gone in for recreation on a large scale, and as never before, but most of it is outside the home.

(P. 72.)

<sup>54</sup> *Socialization of the home-maker's job.*—Increasingly in recent years, society in one or another of its organized aspects—particularly in urban communities, but in some measure also in rural districts—has undertaken to provide a great variety of social services free of cost to the home maker. Society's success in this undertaking to render these services depends principally upon securing intelligent cooperation on the part of the housewife herself. The amount and increase of expenditures by communities in providing for services of this sort is some index of the resources being made available.

*Estimated expenditures for free social services \**

Service	1930	1915	Increase, 1915-30
Total.....	\$3,705,314,000	\$859,336,000	\$2,845,978,000
Education.....	2,883,351,000	708,184,000	2,175,167,000
Libraries.....	50,439,000	15,467,000	34,972,000
Recreation.....	58,275,000	21,295,000	36,980,000
Conservation of health.....	110,420,000	21,850,000	88,570,000
Hospitals.....	438,698,000	58,005,000	380,693,000
Charities.....	123,319,000	34,347,000	88,972,000
Mothers' pensions.....	15,824,000	108,000	15,716,000

\*In undinflated dollars. Recent Social Trends, p. 827. Data for 1915 are from the report of the President's Conference on Unemployment, Recent Economic Changes, vol. I, p. 19. Data for 1930 were compiled by Dr. Isador Lubin of the Brookings Institution, Washington, D.C.

(P. 74.)

<sup>55</sup> *Does reformation reform?*—At least 80 percent of the inmates of our reformatories will be found continuing their criminal careers 5 to 15 years later and so will at least 88 percent of the delinquents who appear before a juvenile court. As Dr. Richard Cabot puts it, "after treatment they were as bad as before or worse." (See 500 Criminal Careers, Glueck and Glueck, New York, 1930, and 1,000 Juvenile Delinquents, Glueck and Glueck, 1933.)

(P. 81.)

<sup>56</sup> *Increase in crime.*—During the very recent 3-year period, from 1929 to 1931, inclusive, the number of annual commitments to all State and National prisons and reformatories increased more than 20 percent, while the population of the country increased about 2 percent. Especially marked was the increase in the number of younger prisoners. While the population increase for 1930 over 1929 amounted to about 1.2 percent, the number of youth under 21 committed to

prisons and reformatories increased 11 percent, and the number of prisoners 21 to 24 years of age increased more than 15 percent. The records from our juvenile courts are even more disheartening.

(P. 82.)

*"The new and serious responsibility being imposed upon our public school system.*—The present situation clearly imposes a new and serious responsibility upon our public-school systems to provide a sort of educational discipline that will be adapted to the needs and interests of youths being excluded from employment under child-labor laws and N.R.A. codes, and being kept longer in school under compulsory attendance laws. This responsibility was forecast by the White House Conference on Child Health and Protection. The subcommittee on child labor of this conference comments as follows on special educational provisions recommended:

Numerous studies of working children show that the causes connected with school have furnished the chief motives in withdrawal from school to go to work for large proportions of young workers. It is generally admitted that in spite of great and continuing improvements, the type of instruction and the school curricula provided are not yet sufficiently individualized to meet the needs and abilities of all pupils. \* \* \* Therefore, it is strongly urged, as a child-labor measure, that some content of education that will mean real development be formed and provided for these children, during the years when they are most in need of guidance (p. 4).

In the past, children who have not fitted into the school curricula have been permitted to drop out and go to work. It is being more generally realized that since they are no longer permitted to go to work, they must not be permitted to drop out of school; and neither must they be required to continue in a school which does not adapt its instruction to their capacities, interests, and needs. The school must, therefore, adapt its offerings to their requirements.

In a recent address, Dr. George Drayton Strayer commented as follows on the increasing responsibility being devolved upon our public schools by extension of the period of compulsory attendance:

We must look forward to the time when all boys and girls will continue in school until 18 or 20 years of age: Public education must accept the responsibility for an ever-increasing percentage of the total population because of the reduction in the number of workers needed to maintain production in our machine-served civilization.

(P. 87.)

*"The shift in the printing business.*—Between 1919 and 1929, to illustrate the number of printing and publishing establishments decreased more than 20 percent. During that same interval the number employed in the business increased from about 376 thousand to more than 470 thousand. While 1 group of 15 States lost 503, another group of six States gained 409 establishments.

(P. 89.)

*"Occupational shiftings by States, 1910 to 1920.*—In agricultural occupations, the range of change during the 2 decades ending in 1930 was from a decrease of 40 percent in New Hampshire to an increase of more than 71 percent in Arizona; in mining and minerals, from a decrease of 81 percent in Delaware to an increase of 441 percent in Louisiana; in manufacturing and mechanical industries, from a decrease of 6 percent in Vermont to an increase of 117 percent in Michigan; in transportation and communication, from a decrease of 20 percent in Montana to an increase of 129 percent in Florida.

In public service occupations the range was from a decrease of 3 percent in Nevada to an increase of 245 percent in Florida; in domestic and personal service, from a decrease of 18 percent in Nevada to an increase of 145 percent in Florida; in trade and commerce, from an increase of 25 percent in North Dakota to 218 percent in Arizona; in professional service, from an increase of 25 percent in Vermont to 270 percent in Florida; and in clerical occupations, from an increase of 67 percent in Nevada to 320 percent in Florida.

(P. 89.)

<sup>60</sup> *Vocational training as a condition of resumption of business activity.*—For millions of workers seeking employment, as business resumes normal activity, following the prolonged period of depression, which the country has been experiencing, it will not be a problem of getting back their old jobs. These will never again be available to them, or to anyone. They must find employment, if at all, in new industries, and in reorganized old industries, employing new methods, processes, and equipment. Traditional trade skill and occupational experience acquired in the predepression period will very generally be *misfit skill and experience* in the period of resumption. The problem will accordingly be not simply a placement problem of returning labor to old jobs, but will be rather one of training labor for new jobs.

The situation confronting vocational education was set forth by the Director of the Federal Board for Vocational Education in a statement to the House Committee on Appropriation, February, 1932.

The point I would make, however, is this: That the jobs which industry will create, and is in fact now creating, will not be the old jobs, and that the necessity of preparing workers to take these new jobs will impose much greater demands upon our vocational schools in the period of resumption than in the present period of depression or in any period of normal activity. The demand for vocational training will increase during the transitional period roughly proportionally as business resumes in approaching normal activity; and I may add, that in some large measure, the resumption of normal activity by industries will itself be conditioned upon the availability of adequate vocational training.

(P. 90.)













